Acer AT3220A/3220B/3220 LCD TV

Service Guide

Service guide files and updates are available on the ACER/CSD web; for more information, please refer to http://csd.acer.com.tw

Project Code: T58

PRINTED IN TAIWAN

Revision History

Please refer to the table below for the updates made on Acer LCD TV AT3220/3220A/3220B service guide.

Date	Chapter	Updates
2006/08/08	Chapter 1	Revise PIP/PBP/POP supporting configuration on page 37.

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Conventions

The following conventions are used in this manual:

SCREEN MESSAGES	Denotes actual messages that appear on screen.
NOTE	Gives bits and pieces of additional information related to the current topic.
WARNING	Alerts you to any damage that might result from doing or not doing specific actions.
CAUTION	Gives precautionary measures to avoid possible hardware or software problems.
IMPORTANT	Reminds you to do specific actions relevant to the accomplishment of procedures.

Preface

Before using this information and the product it supports, please read the following general information.

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office MAY have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.
2. Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

System Specifications

Features

This LCD TV was designed with the user in mind. Here are just a few of its many features:

LCD Panel

- Max. resolution: 1366x768
- Display area: 32 inches diagonal
- Display color: 16.7 M colors (8 real bits per color)
- Life time: 60,000 hours
- Input Signal: 1-ch LVDS
- Contrast ratio: 1200:1 (Typ)
- Brightness: 200 cd/m2 (Typ)
- Response Time: AUO Typ. Gray to gray Tr=Tf=8ms
- Viewing angle: 176° (L) / 176° (R), 176° (U) / 176° (D)

I/O Functions

- RCA jack (YUV and CVBS) for YPbPr, YCbCr, video and audio
- Support 480i/576i, 480p/576p, 1080i and 720p format
- Built-in dynamic adaptive smoothing filter
- Built-in dynamic temporal frame-filtering noise reduction
- Built-in dynamic motion and edge adaptive de-interlacing

Video Functions

- Support PAL/NTSC/SECAM video format (for AT3220A)
- 15 pin D-sub for VGA
- 24 pin DVI/HDCP for DVI-D (optional)
- 19 pin HDMI connector (optional)
- DIN45325 (IEC169-2) Terminal for TV/CATV input
- 3.5 mm Earphone jack for audio line input
- Screen display model 16:9 / 4:3 / panorama / zoom / PIP / POP (Film mode 3:2 & 2:2 pull down)

Mechanical

- Dimensions (W x H x D mm): 814 x 610 x 261
- Weight (kg/lbs.): 17.7/39
- Wall-mounting holes 400mm x 200mm

Power Source

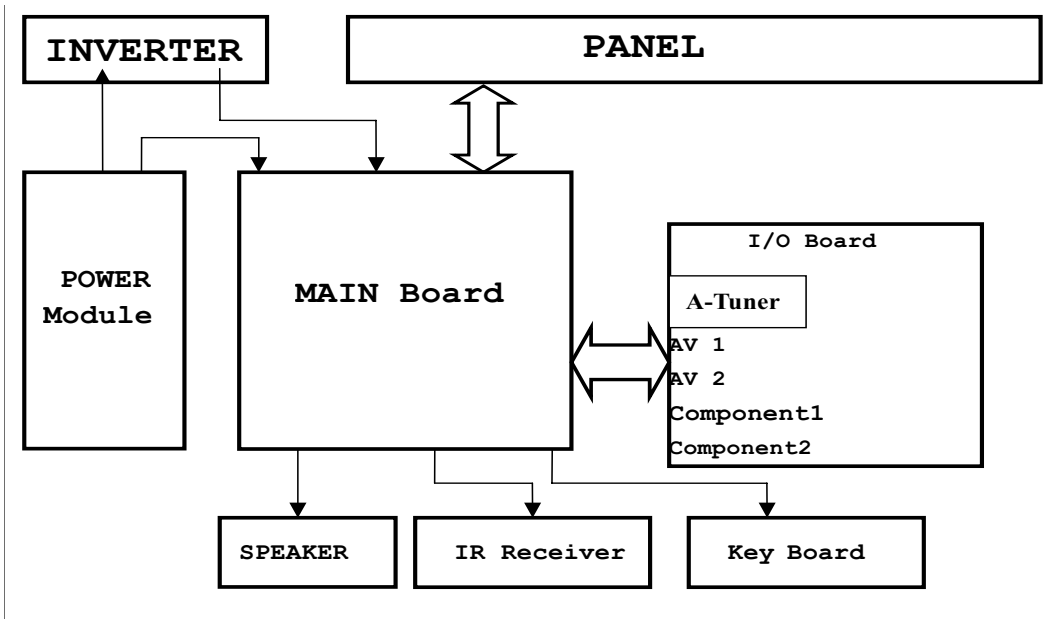
- Input voltage: 100 ~ 264 V, 50 ~ 60 Hz
- Input current: 2.2A
- Standby consumption is under 5 Watts
- Power consumption is under 185 Watts

Speaker

- Internal speaker: 10 W * 2 stereo, volume adjustable
- Amplimfier: 8W * 2 stereo, volume adjustable

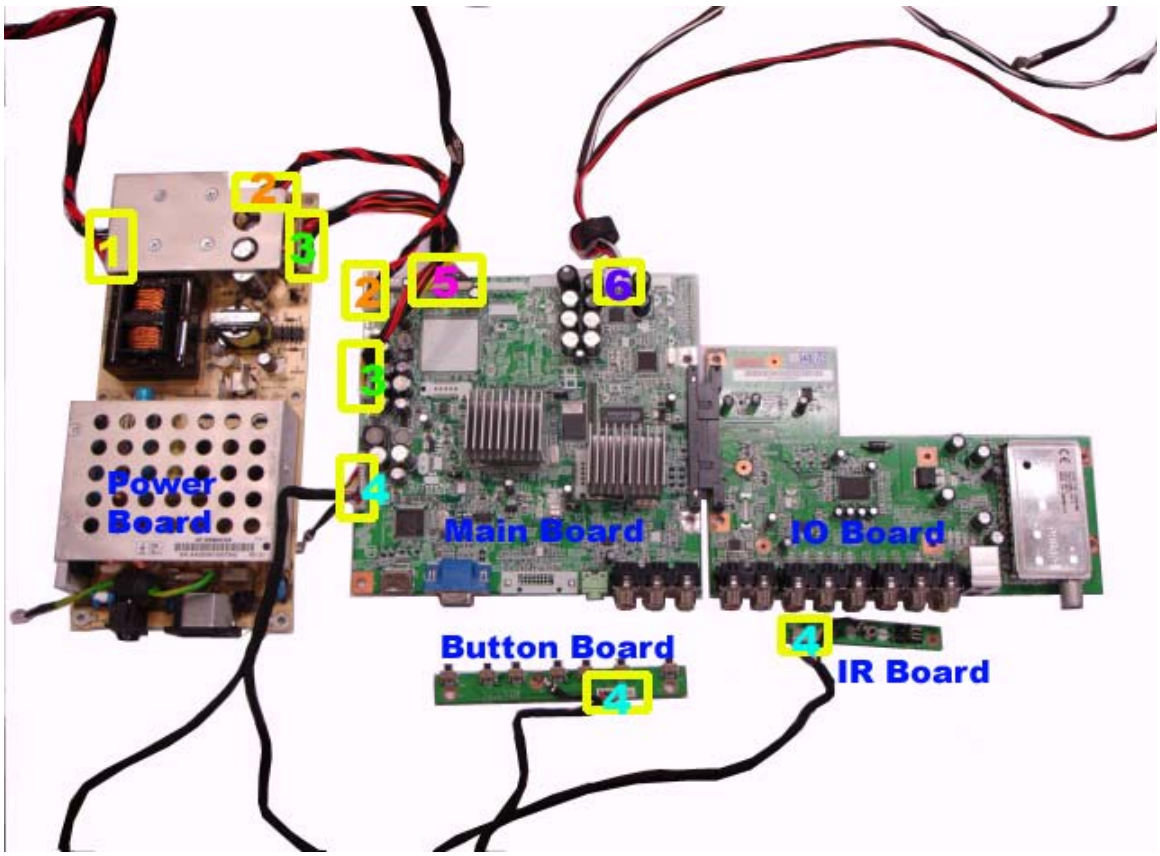
System Block Diagram

System Block and Wiring Diagram



LCD Main Board Block Diagram

Board Layout



Cable Arrangement

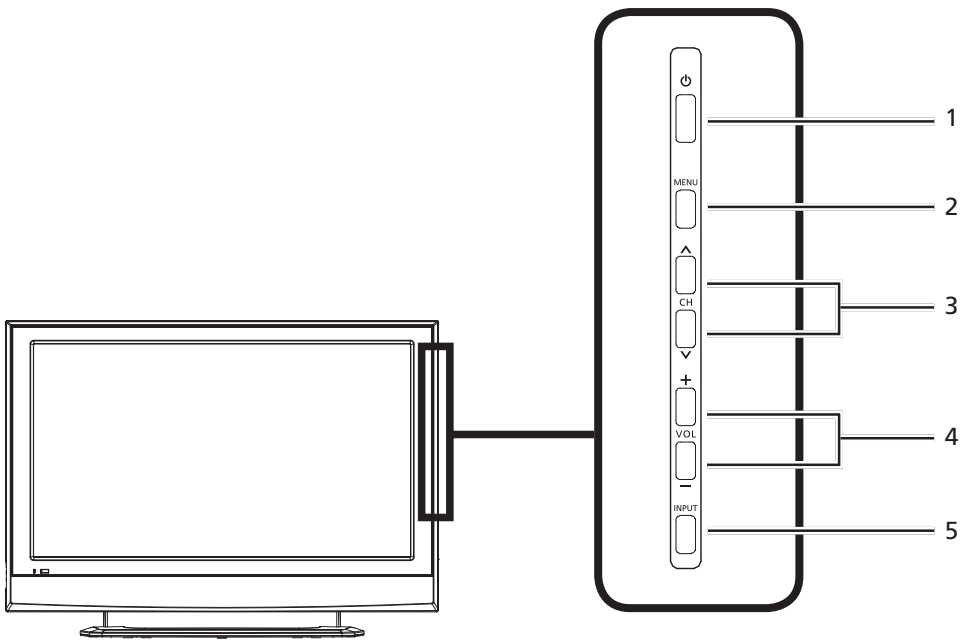
No.	Connector	Cable Description
1	CN908 (Power Board)	Inverter Cable
2	CN903 (Power Board) <-->CON15 (Main Board)	Audio Cable-Main board (audio) to power board
3	CN904<-->CON11	Power Cable
4	CON6 (Main Board) -CN1(Button Board)-CN1 (IR Board)	Button Board-IR Board (CN1)-Main Board (CN1) Cable
5	CON17 (Main Board)	LVDS Cable
6	CON13 (Main Board)	Speaker Cable

LCD TV Overview

A general introduction to Acer LCD TV ports, functions and indicators.

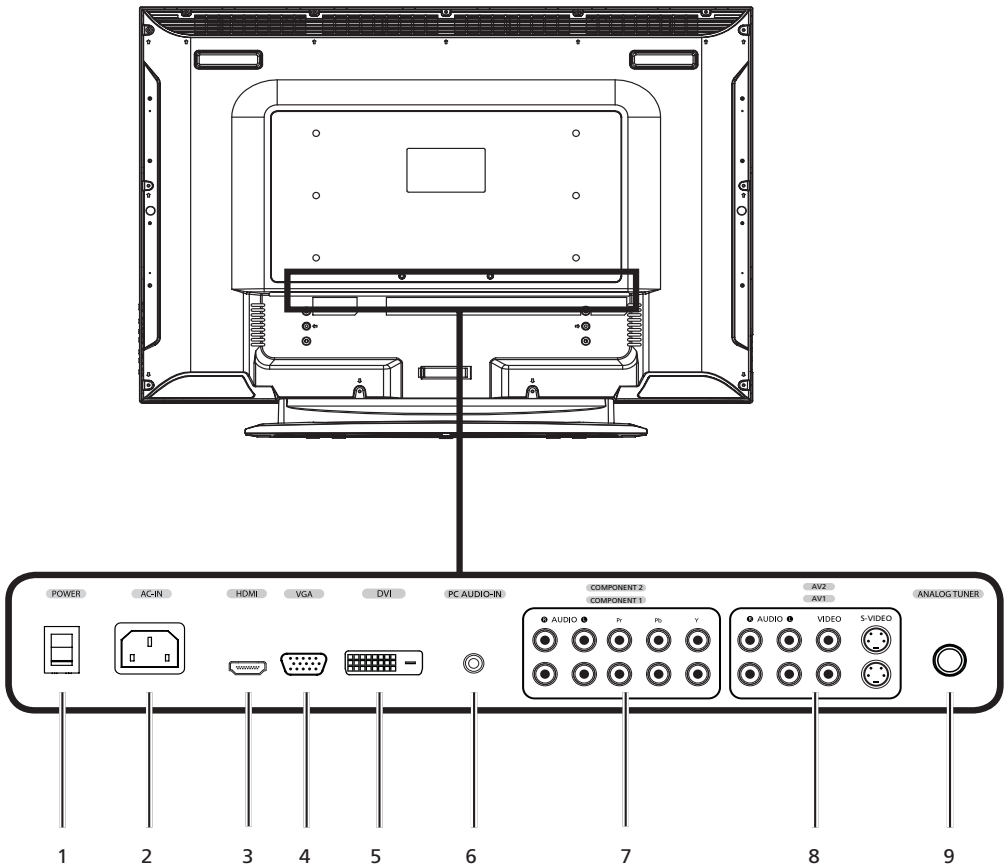
AT3220A/AT3220B/AT3220 Front panle view

The panel view below is for AT3220A/AT3220B/AT3220.



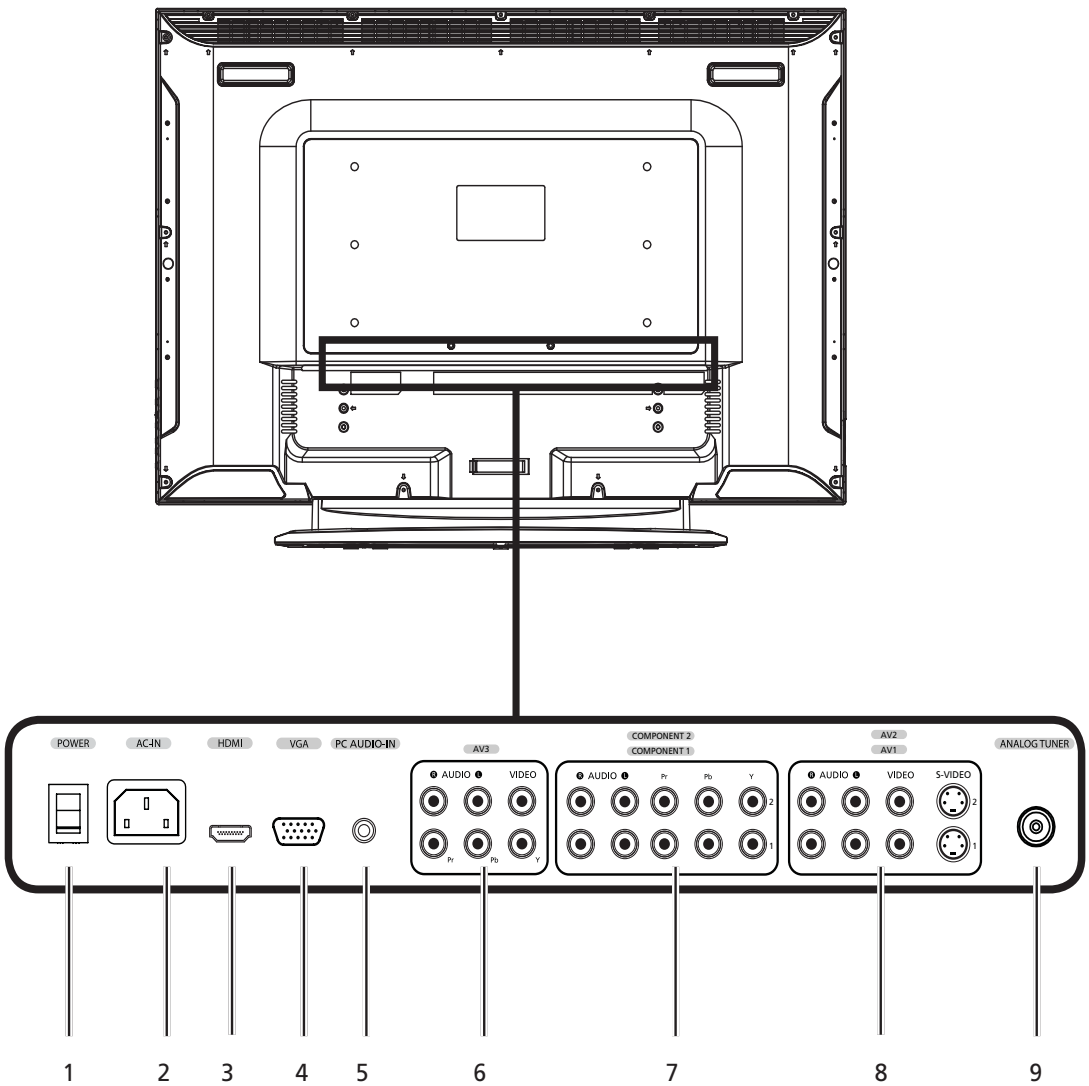
#	Item	Description
1	Power On/Off	Power on or off the LCD TV.
2	Menu key	Turn s the OSD menu On and OFF.
3	Channel up/down	Channel up: When the OSD is on, functions the same as the Up arrow. Channel down: When the OSD is on, functions the same as the Down arrow.
4	Volume +/-	Volume up: When the OSD is on, functions the same as the Right arrow. Volume down: When the OSD is on, functions the same as the Left arrow.
5	Input key	When is OSD is on, press this button to confirm selection.

T3220A Rear panel view



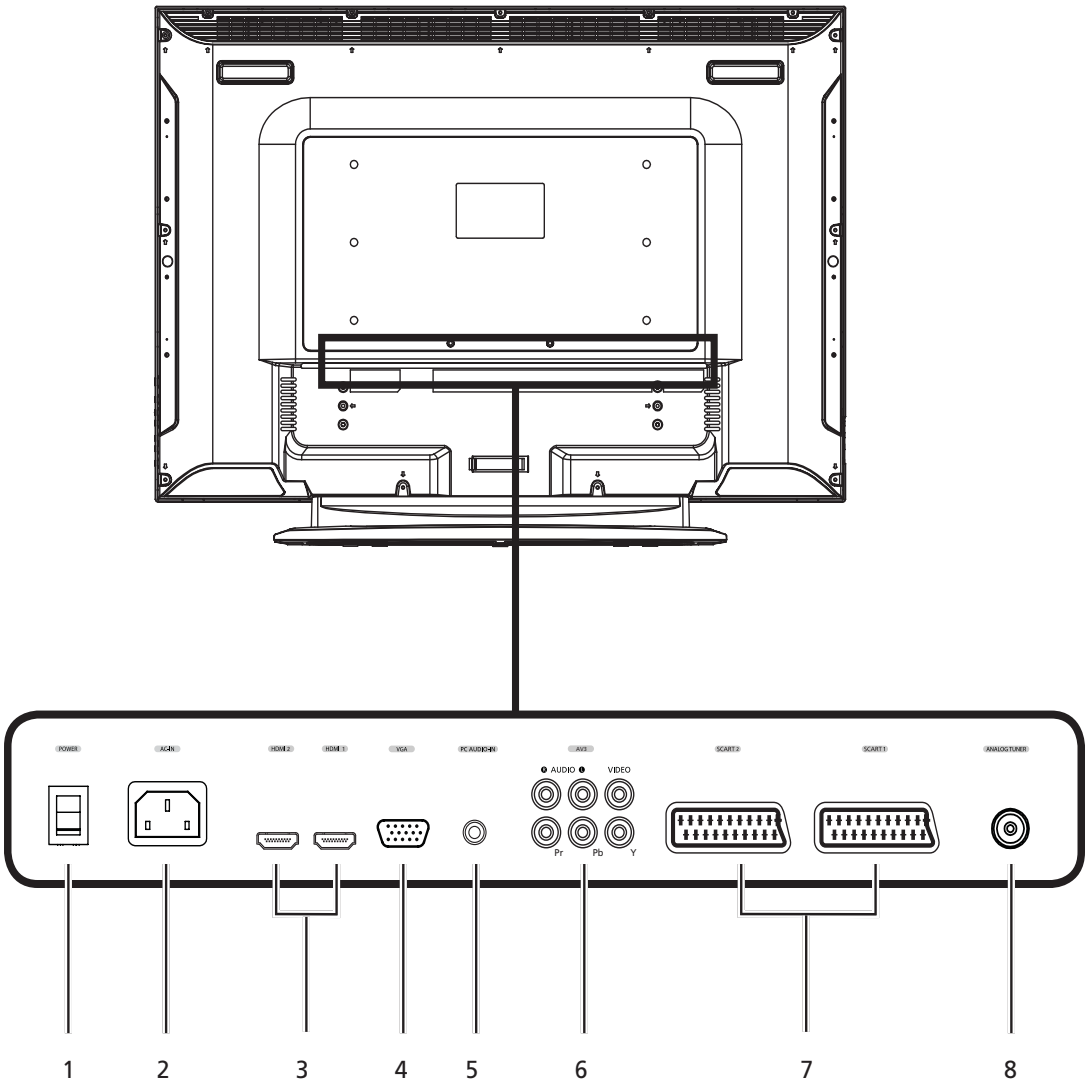
#	Item	#	Item
1	Power switch	6	PC Audio-in
2	AC-in	7	AV-Audio L/R + COMPONENT 1/2
3	HDMI	8	AV-Audio L/R + CVBS 1/2
4	VGA-in	9	Analog antenna
5	DVI-d		

AT3220B Rear panel view



#	Item	#	Item
1	Power switch	6	Audio L/R + CVBS + COMPONENT
2	AC-in	7	Audio L/R + CVBS + COMPONENT 1/2
3	HDMI	8	Audio L/R + CVBS 1/2 + S-Video
4	VGA-in	9	Analog antenna
5	PC Audio-in		

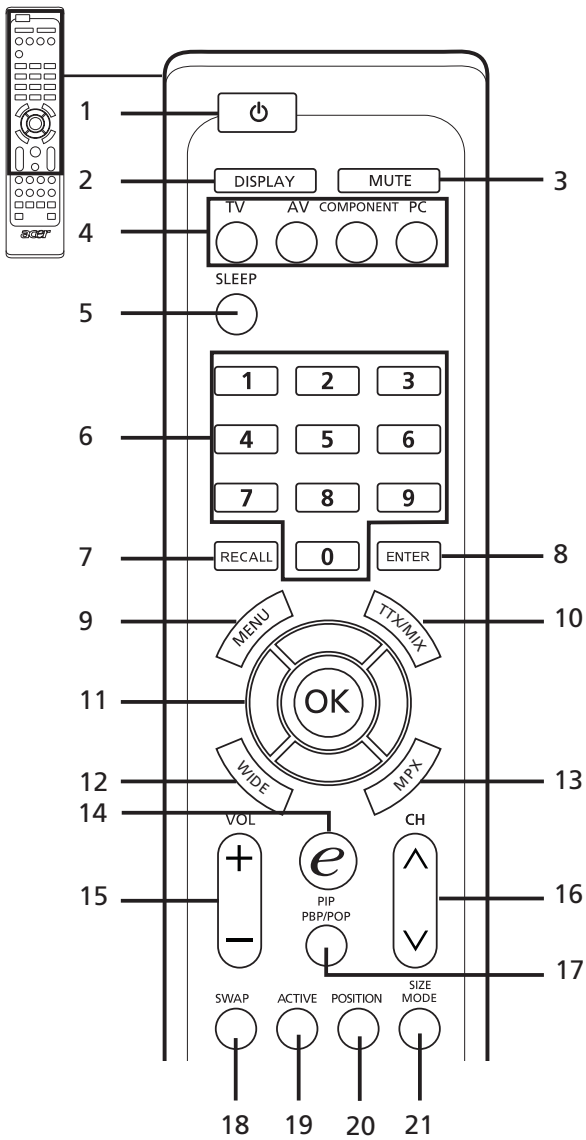
AT3220 Rear panel view



#	Item	#	Item
1	Power switch	5	PC Audio-in
2	AC-in	6	AV-Audio L/R + CVBS + COMPONENT
3	HDMI	7	SCART
4	VGA-in	8	Analog antenna

AT3220A Remote controller

General Keys

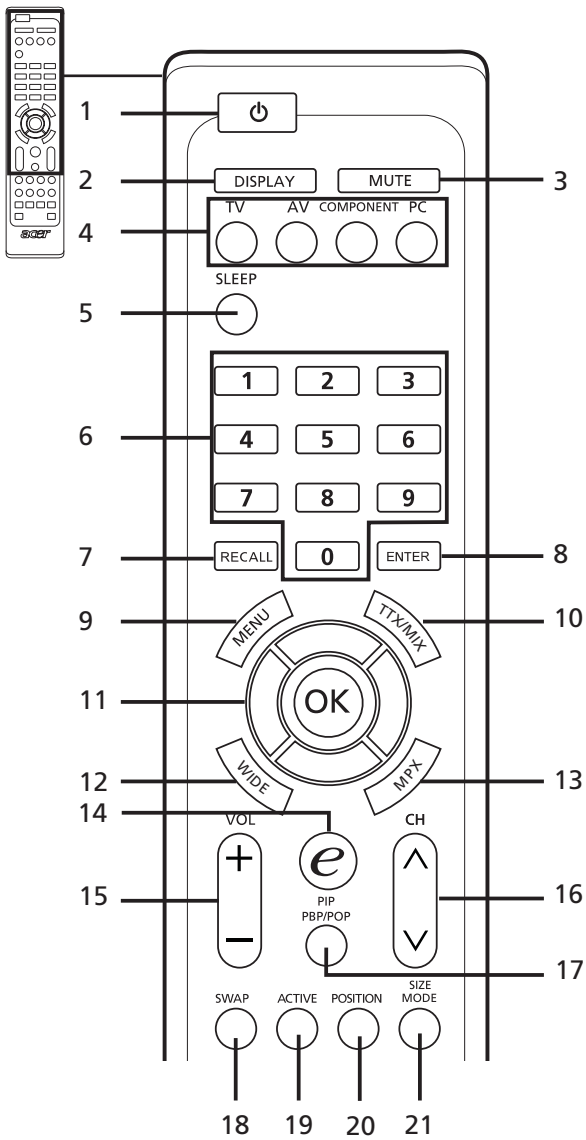


No.	Item	Description
1	POWER	Press to turn your TV on/off.
2	DISPLAY	Press to display input/channel information (dependent on input/source type).
3	MUTE	Press to toggle audio on and off.
4	Input buttons (TV/AV/ COMPONENT/PC)	Press to select correct input mode.
5	SLEEP	Press to set a time period after which the TV will switch itself to standby (15, 30, 45, 60, 90 or 120 minutes).
6	Number keys	Press to select the TV channel.
7	RECALL	Press to reture to the previous channel.

8	ENTER	Press to confirm channel number selection.
9	MENU	Press to open or close the Menu.
10	CC	Press to select close caption and text service between CC1, CC2, CC3, CC4, Text1, Text2, Twxt3, Text4.
11	Directional keys/OK	N/A
12	WIDE	Press to toggle scaling mode between 4:3; 16:9, Panorama and Letterbox 1, 2, 3 modes.
13	MTS	Press to switch the sound system between stereo, main and SAP. Information is displayed in the top right-hand corner.
14	e (Empowering Technology)	Press to activate Acer Empowering Technology.
15	VOL (+/-)	Press to increase or decrease the volume.
16	CH (up/down)	Press to sequentially select the TV channel.
17	PIP/PBP/POP	Switch between PIP/PBP/POP modes.
18	SWAP	For PIP/PBP mode: Toggle between the primary and subscreens.
19	ACTIVE	Tobble between primary and subscreens.
20	POSITION	When in PIP mode: Change subscreen position.
21	SIZE/MODE	When in PIP mode: Change subscreen size. When in POP mode: Switch POP mode from 1+5 to 1+12.

AT3220B Remote controller

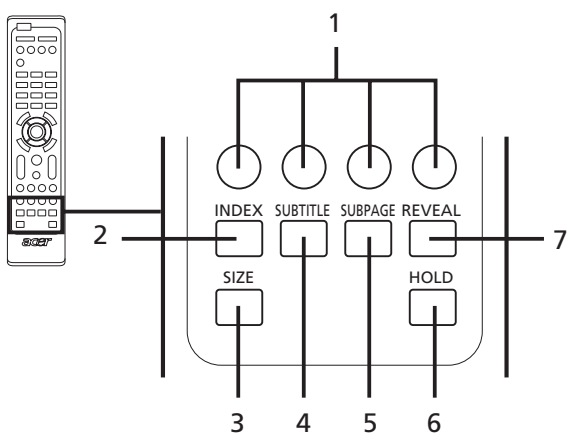
General Keys



No.	Item	Description
1	POWER	Press to turn your TV on/off.
2	DISPLAY	Press to display input/channel information (dependent on input/source type).
3	MUTE	Press to toggle audio on and off.
4	Input buttons (TV/AV/ COMPONENT/PC)	Press to select correct input mode.
5	SLEEP	Press to set a time period after which the TV will switch itself to standby (15, 30, 45, 60, 90 or 120 minutes).
6	Number keys	Press to select the TV channel.
7	RECALL	Press to return to the previous channel.

8	ENTER	Press to confirm channel number selection.
9	MENU	Press to open or close the Menu.
10	TTX/MIX (TELETEXT/MIX)	Press to return to the previous channel.
11	Directional keys/OK	N/A
12	WIDE	Press to toggle scaling mode between 4:3; 16:9, Panorama and Letterbox 1, 2, 3 modes.
13	MPX	Press to select the sound input, displayed in the top right-hand corner (mono, stereo, bilingual).
14	e (Empowering Technology)	Press to activate Acer Empowering Technology.
15	VOL (+/-)	Press to increase or decrease the volume.
16	CH (up/down)	Press to sequentially select the TV channel.
17	PIP/PBP/POP	Switch between PIP/PBP/POP modes.
18	SWAP	For PIP/PBP mode: Toggle between the primary and subscreens.
18	ACTIVE	Toggle between primary and subscreens.
20	POSITION	When in PIP mode: Change subscreen position.
21	SIZE/MODE	When in PIP mode: Change subscreen size. When in POP mode: Switch POP mode from 1+5 to 1+12.

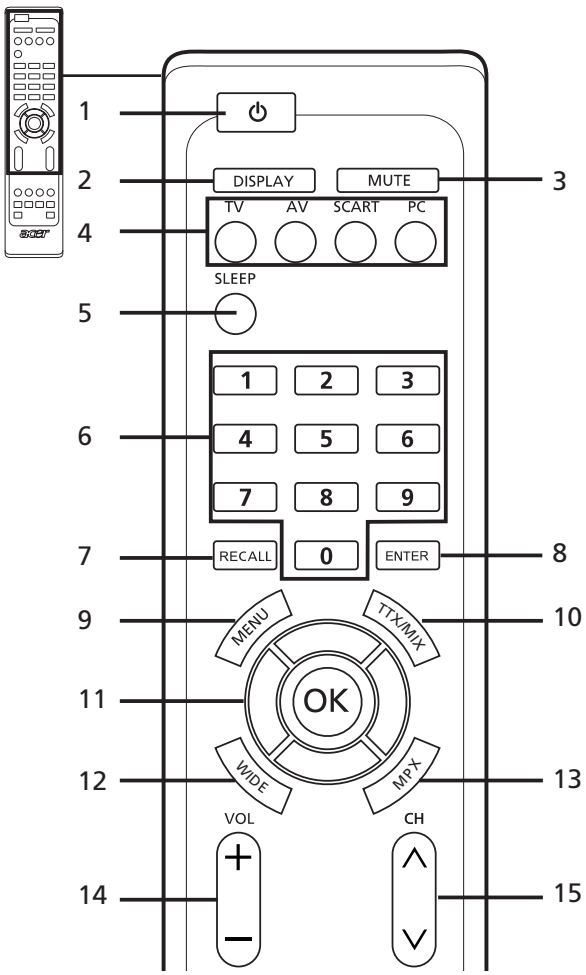
Teletext



No.	Item	Description
1	Colour buttons (R/G/Y/B)	Operates corresponding button on the teletext page.
2	INDEX	Press to go to the index page.
3	SIZE	Press once to zoom teletext page to 2X. Press again to resume.
4	SUBTITLE	Press to view subtitles on the screen.
5	SUBPAGE	Press to access the teletext's subpages directly.
6	HOLD	Press to pause the current teletext page in multi-page viewing mode.
7	REVEAL	Press to reveal hidden teletext information.

AT3220 Remote controller

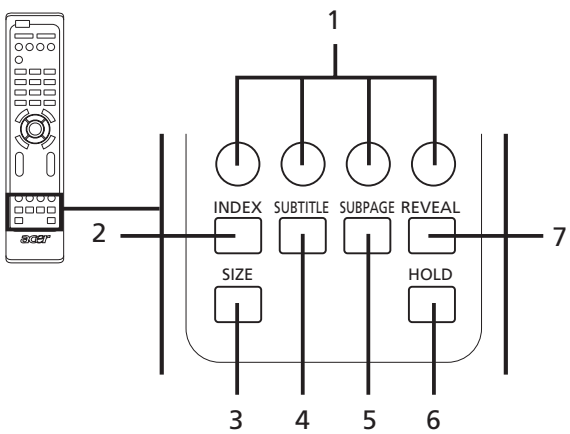
General Keys



No.	Item	Description
1	POWER	Press to turn your TV on/off.
2	DISPLAY	Press to display input/channel information (dependent on input/source type).
3	MUTE	Press to toggle audio on and off.
4	Input buttons (TV/AV/ SCART/PC)	Press to select correct input mode.
5	SLEEP	Press to set a time period after which the TV will switch itself to standby (15, 30, 45, 60, 90 or 120 minutes).
6	Number keys.	Press to select the TV channel.
7	RECALL	Press to return to the previous channel.
8	ENTER	Press to confirm channel number selection.
9	MENU	Press to open or close the Menu.
10	TTX/MIX (TELETEXT/MIX)	Press to return to the previous channel.
11	Directional keys/OK	N/A

12	WIDE	Press to toggle scaling mode between 4:3; 16:9, Panorama and Letterbox 1, 2, 3 modes.
13	MPX	Press to select the sound input, displayed in the top right-hand corner (mono, stereo, bilingual).
14	VOL (+/-)	Press to increase or decrease the volume.
15	CH (up/down)	Press to sequentially select the TV channel.

Teletext



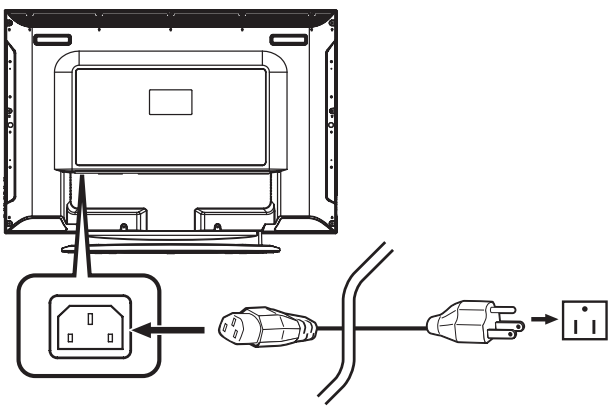
No.	Item	Description
1	Colour buttons (R/G/Y/B)	Operates corresponding button on the teletext page.
2	INDEX	Press to go to the index page.
3	SIZE	Press once to zoom teletext page to 2X. Press again to resume.
4	SUBTITLE	Press to view subtitles on the screen.
5	SUBPAGE	Press to access the teletext's subpages directly.
6	HOLD	Press to pause the current teletext page in multi-page viewing mode.
7	REVEAL	Press to reveal hidden teletext information.

Basic connection

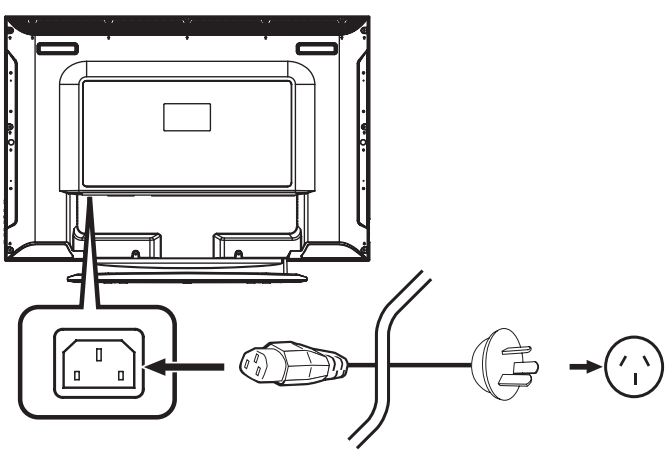
Connecting the power cord

1. Connect the AC cord into the AC input on the back of the set.
2. Connect the male plug to the wall outlet as shown.

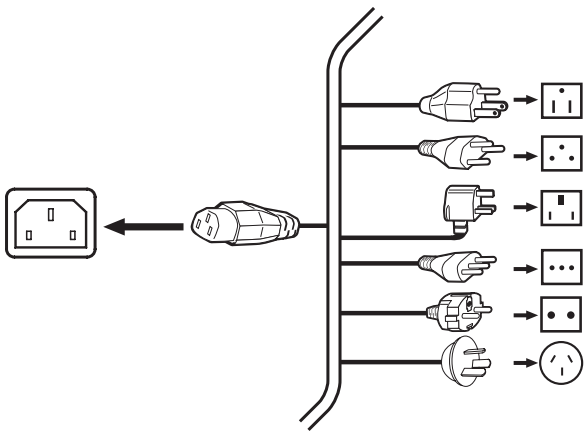
For AT3220A:



For AT3220B:

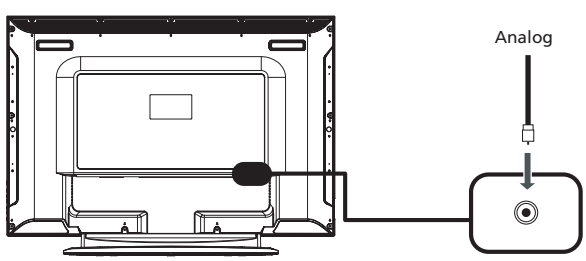


For AT3220:

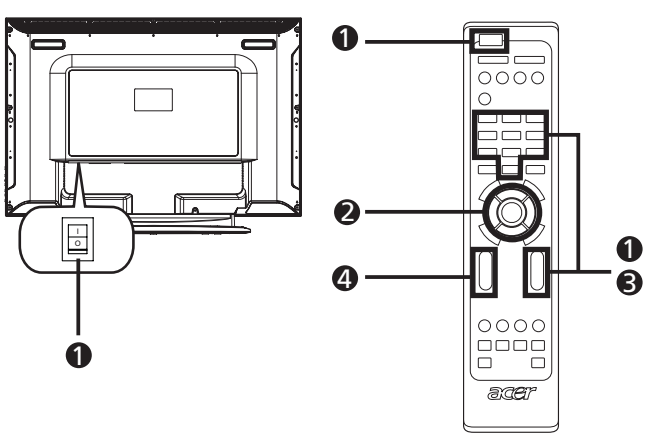


Connecting an antenna/cable

Connect the antenna cable to the appropriate antenna terminal on the back of the TV set as shown below.



Getting started watching your TV



1. Select the setup language you prefer.
2. Please select country.
3. Ensure that your co-axial cables connected correctly before proceeding.

4. Scan for analog channels.
5. Setup is now complete. You are ready to begin watching TV.

If you leave the setup process before it is complete, you will be given a choice of options:

1. Resume setup
2. Resume setup wizard at next startup
3. Exit and do not remind me

Select an option and press OK to exit.

No.	Description
1	Power a. Turn on the power switch beneath the screen. b. Press the power button, number keys or channel up / down button on the remote control.
2	Setup Wizard The first time you switch on the TV, the Setup Wizard will guide you to complete the language selection and channel scanning. Press OK key to begin the setup process.
3	Changing channels a. Press 0-9 on the remote control to select a channel. The channel changes after 2 seconds. Press ENTER to select the select the channel immediately. b. Pressing the channel (CH) up/ down button on the remote control will also change the channel.
4	Adjusting the volume Adjust the volume level using the (VOL) +/- button on the remote control.

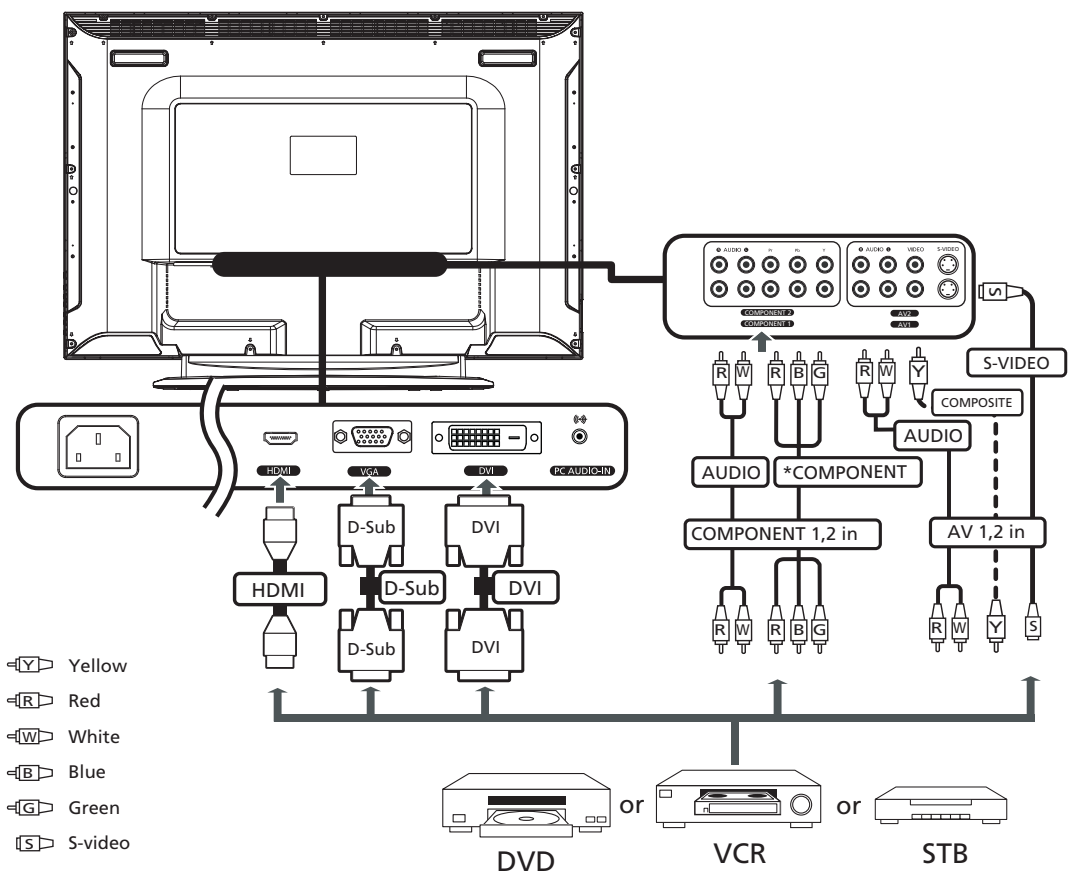
Connecting external audio/video device

Connecting a DVD, VCR, STB or audio/video equipment

Connect your DVD player, VCR or audio/video equipment using the SCART port located at the rear of your LCD TV as shown below.

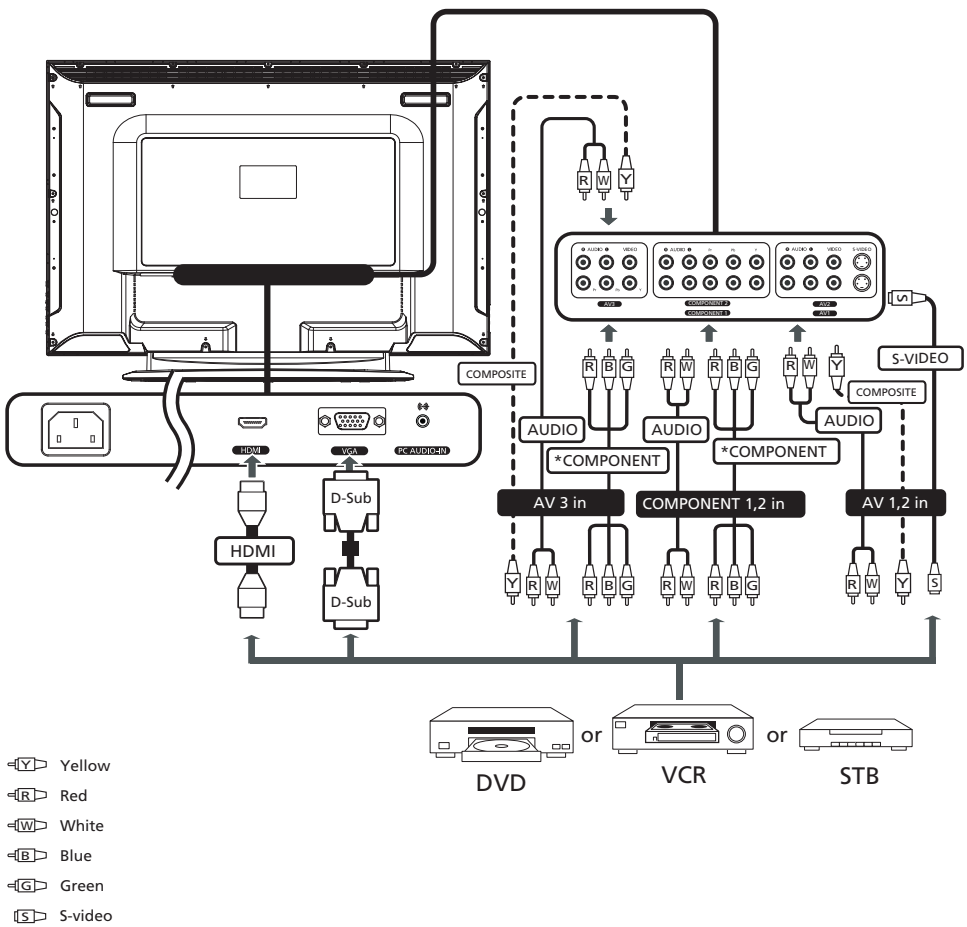
For AT3220A:

Source-IN

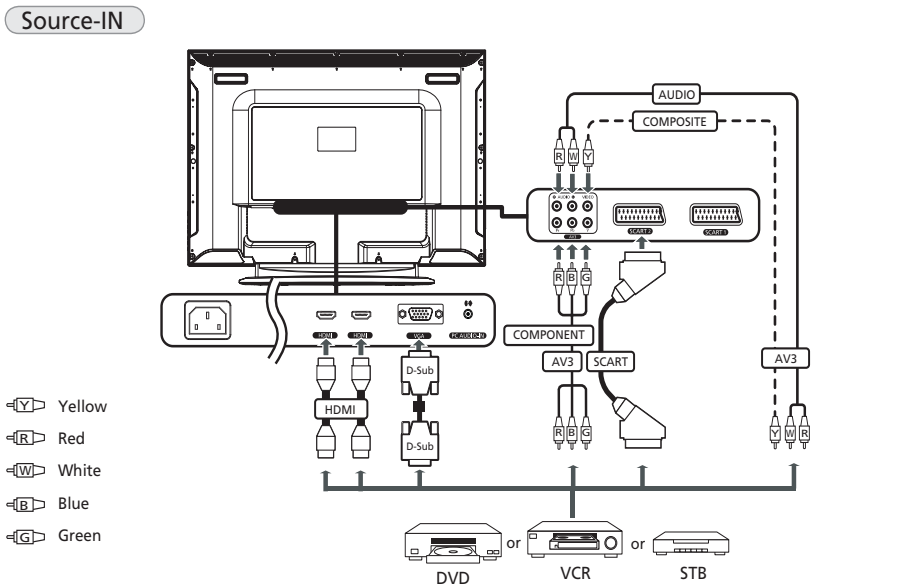


NOTE: Acer recommends the following priority for connection types: HDMI -> DVI ->D-Sub ->COMPONENT -> S-Video -> Composite.

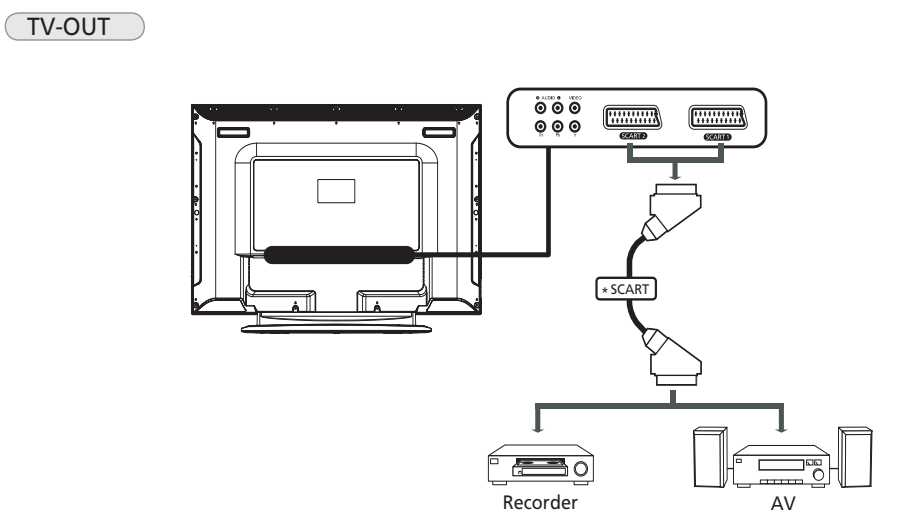
For AT3220B:


COMPOSITE
HDMI
VGA
PC AUDIO-IN
D-Sub
HDMI
D-Sub
AUDIO
*COMPONENT
AV 3 in
AUDIO
*COMPONENT
COMPONENT 1,2 in
AUDIO
COMPOSITE
S-VIDEO
AV 1,2 in
or
or
DVD
VCR
STB
Yellow
Red
White
Blue
Green
S-video

For AT3220:



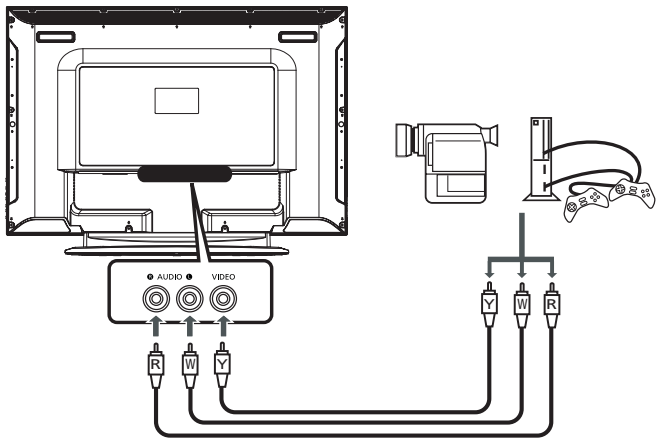
* Acer recommends the following priority for connection types:
HDMI -> COMPONENT -> SCART -> Composite.



*SCART-out only works with analog broadcasts.

Connecting a camera, camcorder, video am or headphones

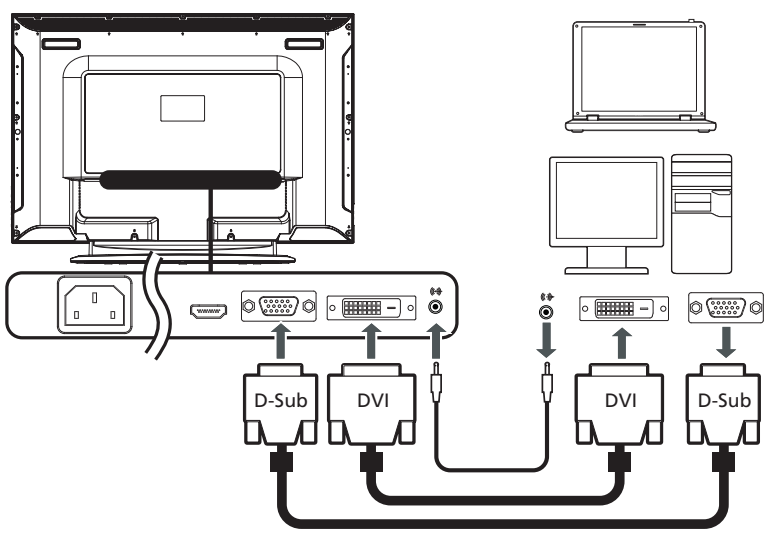
Connect your camera or camcorder to the video/audio ports on the rear of the TV set as shown below.



Connecting a PC or notebook computer

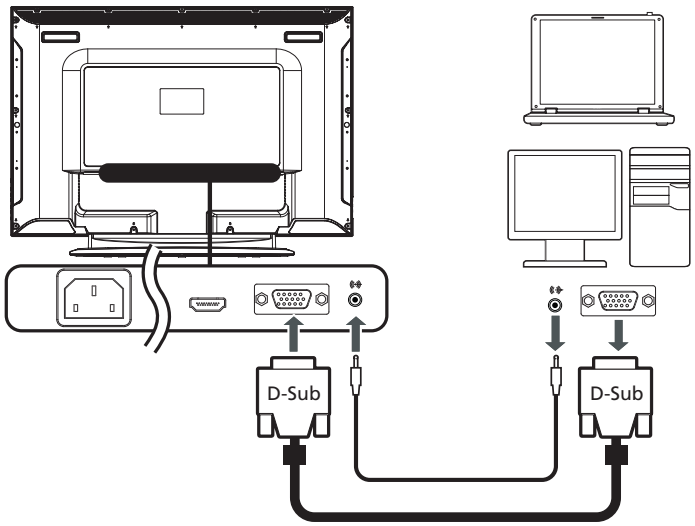
To display PC output on your TV, connect your PC or notebook computer to the TV as shown below.

For AT3220A:

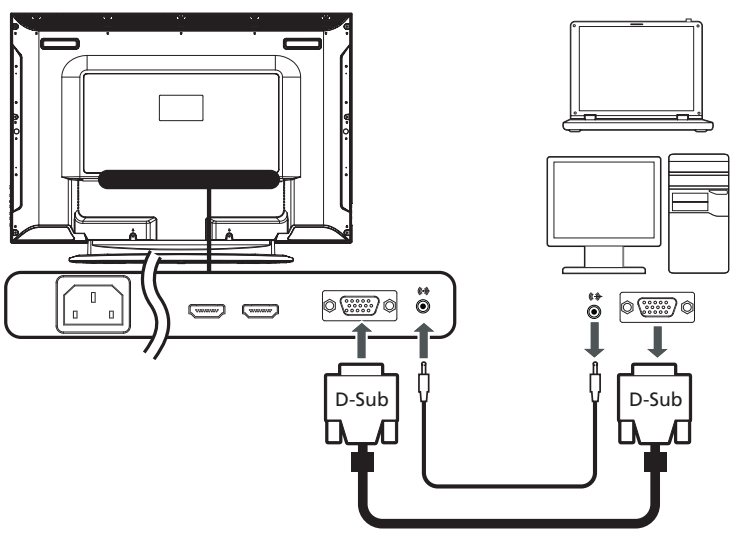


NOTE: For VGA and DVI input, Acer recommends setting your PC's external monitor resolution to 1360 x 768 pixel @ 60 Hz.

For AT3220B:



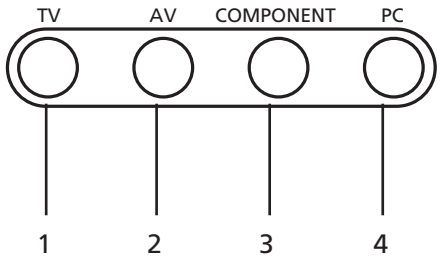
For AT3220:



Selecting the input source

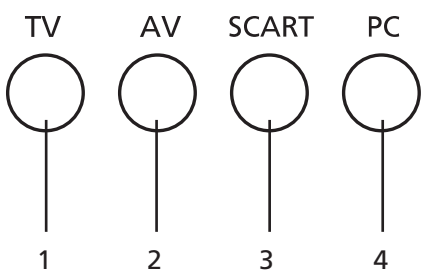
Once you have connected your antenna or external equipment to the TV, you need to select the correct input source. Press the corresponding button on the remote control to select the correct input source.

For AT3220A/AT3220B:



No	Item	Input Button Guide
1	TV key	Toggle Analog TV (ATV) between input sources.
2	AV key	Toggle AV1, AV2, AV3-CVBS* and HDMI between input sources.
3	COMPONENT key	Toggle COMPONENT 1, COMPONENT2 and AV3-COMPONENT* between input sources.
4	PC key	Toggle VGA between input sources.

For AT3220:



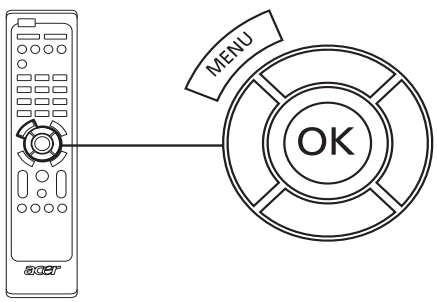
No	Item	Input Button Guide
1	TV key	Toggle Analog TV (ATV) between input sources.
2	AV key	Toggle AV1, AV2, AV3-CVBS* and HDMI between input sources.
3	COMPONENT key	Toggle COMPONENT 1, COMPONENT2 and AV3-COMPONENT* between input sources.
4	PC key	Toggle VGA between input sources.

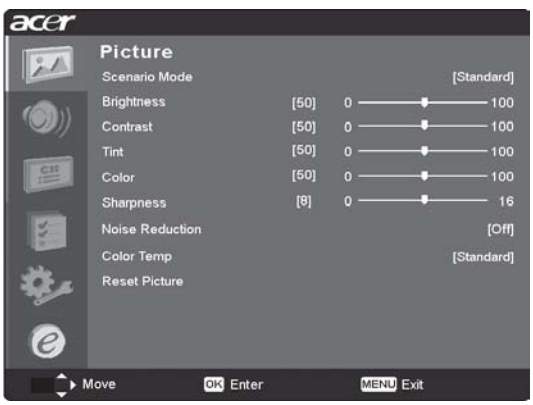
OSD navigation

Many of the advanced settings and adjustments are available through using the OSD (onscreen display) menus, as shown in the example screenshot below.

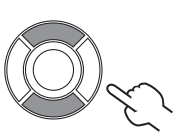
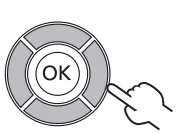
Basic operations required to navigate these menus (Picture, Audio, Channel management, Options, Settings and Empowering) are described in this section.

Navigating the OSD with the remote control





NOTE: You can also interact with these menus using the front panel controls. Please see “Front panel view” section for AT3220A.

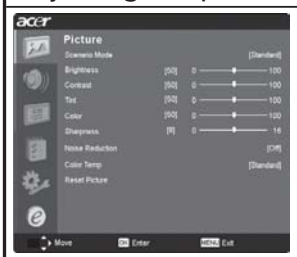
No.	Icon or Display	Description
There are six main OSD menus. These are: Picture, Audio, Channel management, Options, Settings and Empowering. Use the following method to navigate these menus.		
1		Press the **MENU** button on the remote control or the **MENU** button on the control panel.
2		Select your desired menu by using the up and down **directional keys** to switch betwee the six menus.
3		Use the directional keys to ineract with the menu. The up / down directions will scroll through the menu options, while left / right will adjust the different settings (for example, in the Picture menus, settings such as brightness, contrast, etc.) Press **MENU** to exit.

Adjusting the OSD settings

The OSD can be used for adjusting the settings of your LCD TV.

Press the MENU key to open the OSD. You can use the OSD to adjust the picture quality, audio settings, channel settings, options, general settings, and Empowering Technology. For advanced settings, please refer to following page:

Adjusting the picture quality



1. Press the **MENU** key to bring up the OSD.
2. Using the directional keys, select **Picture** from the OSD. Then navigate to the picture element you wish to adjust.
3. Use the left or right keys to adjust the sliding scales.
4. The **Picture** menu can be used to adjust the current Scenario mode, brightness, contrast, color, sharpness and other image-related qualities.

Adjusting the audio settings

1. Press the **MENU** key to bring up the OSD.
2. Using the directional keys, select **Audio** from the onscreen display. Then navigate to the feature you wish to adjust.
3. Use the left or right keys to adjust the sliding scale. Press **OK** to save.
4. The **Audio** menu can also be used to adjust the treble, balance, sound effects and other important sound-related settings.

Adjusting the channel management

1. Press the **MENU** key to bring up the OSD.
2. Using the directional keys, select **Channel management** from the OSD.
3. Use the directional keys to navigate the menus.
4. The **Channel management** menu can be used to set channel skipped, select TV system and scan channels automatically.

Adjusting other options

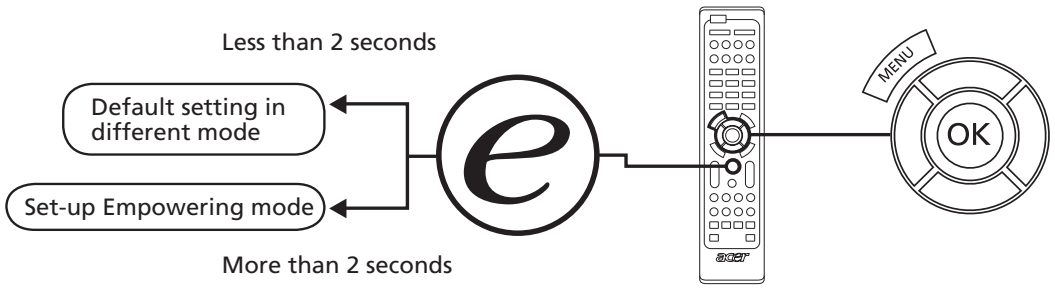
1. Press the **MENU** key to bring up the OSD.
2. Using the directional keys, select **Options** from the OSD.
3. Use the directional keys to navigate the menus.
4. The **Options** menu can be used to select the picture aspect-ratio mode, set the sleep timer and other important options.

Adjusting the settings

1. Press the **MENU** key to bring up the OSD.
2. Using the directional keys, select **Settings** from the OSD. Then navigate to the feature you wish to adjust.
3. The **Settings** menu can be used to adjust the menu language and other important settings.

NOTE: The options available on the OSD may vary depending on the TV signal source.

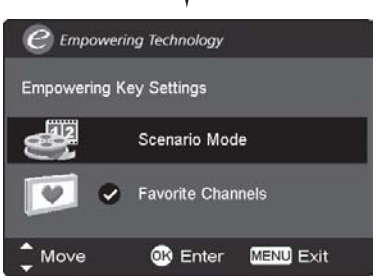
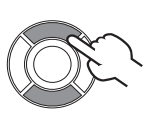
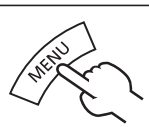
Empowering Technology



The Empowering Key opens up the Acer Empowering Technology functions. In TV mode, the choice is between Scenario mode and Favorite channel.

Set-up Empowering mode

To change your Empowering Key's default setting:

1		Press and hold the **Empowering Key** for more than **two seconds** to open the menu.
2	More than 2 seconds  **TV mode** Empowering Key settings menu	
		Use the **directional keys** to navigate the menu and select the Empowering Technology icon.
3		Press **MENU** to exit. Now, when you press the Empowering Key, your chosen selection will be accessed.

Default setting in different Empowering mode

Scenario mode in TV (default setting)

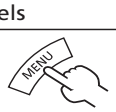
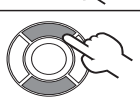
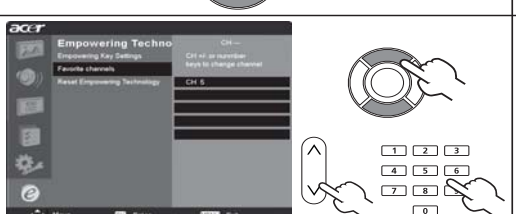
Scenario mode has five preset viewing modes designed to give you the best picture quality when watching a particular kind of program. There are five pre-defined audio and video settings for optimal enjoyment of the following scenarios: Standard TV, Movie, Sport, Concert, Game, User.

	Pressing the **Empowering Key** for less than **two second** will toggle between the different modes.

Mode	Information
Standard	Standard mode allows you to watch your favorite channels with sharp, brilliant imagery via adaptive brightness and contrast adjustments, and listen to clear-sounding audio.
Movie	For comfortably enjoying movies at home, Movie mode displays dim scenes in clear detail; compensates for color; and smoothly presents motion images. This is accomplished through optimal Gamma correction plus saturation, brightness and contrast adjustments. Movie mode makes the most of high-definition movie soundtracks.
Game	Game mode carefully details the exquisite graphics of modern video games, providing lifelike entertainment while protecting your eyesight by adjusting brightness and contrast. What's more, Game mode provides a heightened audio experience.
Sports	Sports mode is suited for outdoor sports programs, with accurate background depth and clear gradation between the bright, outdoor playing field and darker auditoriums. Sports mode also brilliantly enhances colors and presents swiftly moving pictures without residual images. All of this is achieved via specific Gamma corrections and saturation adjustments. Precise audio can be heard.
Concert	Concert mode places you in a virtual concert hall, opera house or other dim environment by means of adaptive brightness and contrast adjustments. Concert mode accentuates symphonic harmonies and the tenor audio range.

Favorite channel mode in TV

Favorite channel allows you to store five of your favorite TV channels and flick between them at the touch of a single button. To set Favorite channel as the default, follow the steps on page 26.

Storing favorite channels		
1		Select your desired channel, then press the **MENU** key on the remote control.
2		Use the **directional keys** to navigate the menu and select the Empowering Technology icon.
3		Navigate to a channel slot, use CH up/down button or number key to change channel. There are a total of five slots in which you can store TV programs.
Viewing your favorite channels		
		On the remote control, if you press the **Empowering Key** for less than two second, the TV will toggle between the five stored TV channels sequentially according to your list of favorites.

OSD Navigation

Many of the advanced settings and adjustments are available through using the OSD (on screen display) menus, as shown in the example screenshot below.

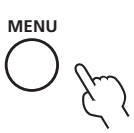
Basic operations required ot navigate these menus (Picture, Audio, Settings, Options, Empowering) are described in this section. The first time you access the OSD, you will be asked to choose your language settings.

NOTE: You can also interact with these menus using the front panel controls.

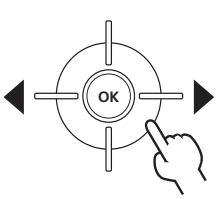
Navigating the OSD with Remote Control

There are five main OSD menus. These are: Picture, Audio, Settings, Options and Empowering. Use the following method to easily navigate these menus.

1. Press the “Menu” button on the remote control or the “Menu” button on the control panel.



2. Select your desired menu by using the Left/Right sides of the directional pad ot switch between the five menus.



3. Use the directional pad to interact with the menu. The Up/Down directions will scroll through the menu options, while Left/Right will adjust the different settings (for example, in the Picture menu, settings such as brightness, contrast, etc). If there are no adjustments, press Enter to select.

Teletext

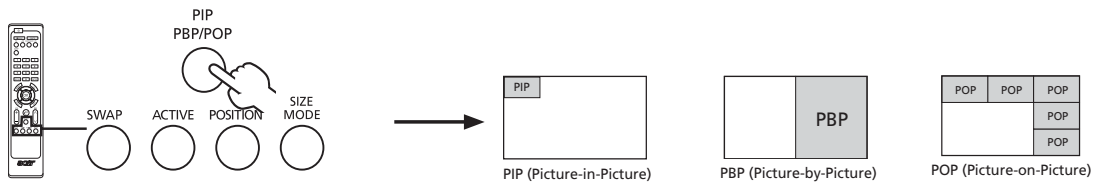
Most TV channels also broadcast information via the teletext feature. This Acer LCD TV has 252 pages of memory which will store pages and subpages, thereby reducing waiting time. The teletext buttons on the remote control are listed below.

Item	Description
INDEX	Go to index page
SUBTITLE	Show subtitle on the screen
TELETEXT	Press to switch from TV/AV to Teletext mode.
REVEAL	Press to reveal hidden teletext information.
SIZE	Press once to zoom teletext page to 2X; press again to resume.
MIX	Press to overlay teletext page on the TV image, i.e. subtitle
HOLD	Press to pause the current teletext page in multi-page viewing mode.
Color buttons (R/G/Y/B)	Operates corresponding button on the teletext page.

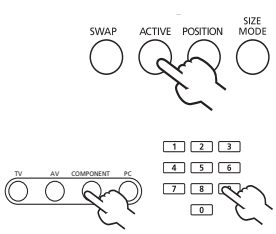
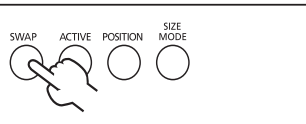
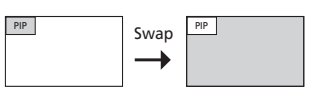
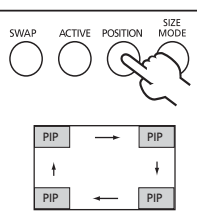
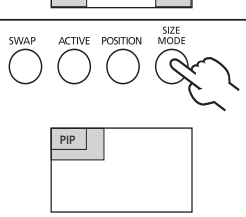
Advanced Features

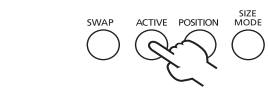
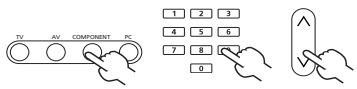
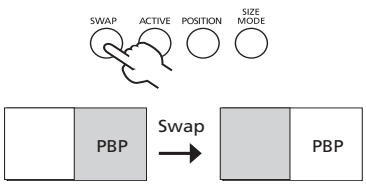
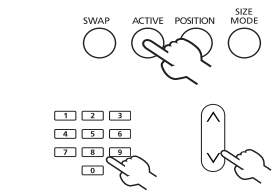
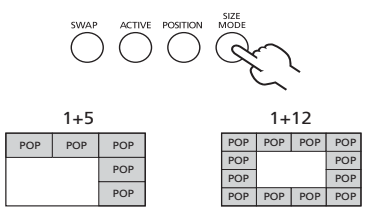
PIP/PBP/POP

- Press the PIP/PBP button once to display activate picture-in-picture (PIP).
- Press twice to activate picture-by-picture (PBP).
- Press three times to activate picture-on-picture (POP). Then, the POP screens will display the TV Channel programs on by one.



NOTE: The OSD menu is not available in PIP/POP/PBP modes.

PIP		1a. Press the **ACTIVE** key to toggle between PIP screens. 1b. Press the **TV**, **AV**, **COMPONENT** or **PC** keys, number keys or **CH** up or down to change the content of the active screen.
		2. Press the **SWAP** key to change the content between the primary and the subscreen.
		
		3. Press the **POSITION** key to select the location of the subscreens, from upper left -> upper right -> lower right -> lower left, as shown in the image.
		4. Press the **SIZE/MODE** key to select the size of the subscreen, from 25% -> 37.5% -> 50%, as shown in the image.

PBP		1a. Press the **ACTIVE** key to toggle between PBP screens.
		1b. Press the **TV**, **AV**, **COMPONENT** or **PC** keys, number keys or **CH** up or down to change the content of the active screen.
		2. Press the **SWAP** key to change the content between the primary and the PBP screen.
POP		1a. Press the **ACTIVE** key to toggle between POP screens.
		1b. Press the number keys or **CH** up or down to change the TV channel on the active screen.
		2. Press the **SIZE/MODE** key to access the 1 + 5 or 1+12 picture-on-picture mode as shown in the image.

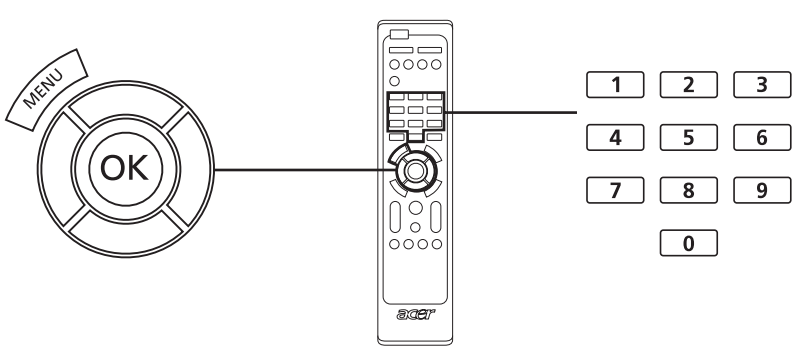
NOTE: In PIP and PBP, the VGA and DVI sources only support input up to 1360x768 pixels at 60Hz. For resolutions higher than this, “Out of Range” will be displayed.

NOTE: The POP can only support 1+12 when the main screen scurce is HD content or in VGA mode.

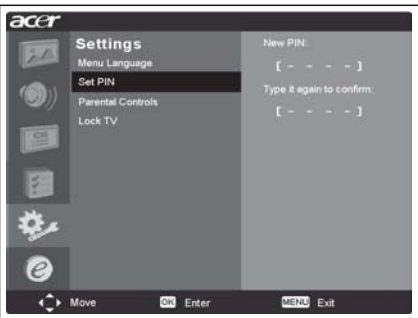
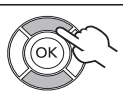
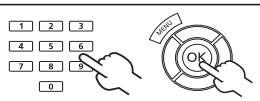
Lock TV

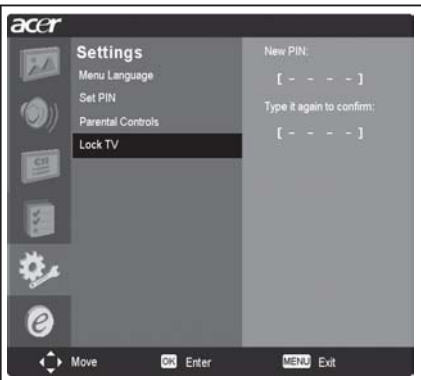
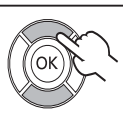
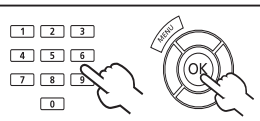
Locking TV content

Lock TV allows you to enter a password and effectively stop anyone without the password from watching TV..



to enable this feature:

Setting a personal PIN			
1			Press the **MENU** key on the remote control to bring up the OSD.
2		Use the **directional keys** to navigate to the Settings menu. Then select **Set PIN**. (see note)	
3		Enter a four-digit password. Type it again and press **OK** to reconfirm.	
4		Press **MENU** to exit.	

Locking your TV			
1			Press the **MENU** key on the remote control to bring up the OSD.
2		Use the **directional keys** to navigate to the Settings menu. Then select **Lock TV**.	
3		Enter your PIN. Type it again and press **OK** to reconfirm. (see page 16 note)	

Hardware Specifications and Configurations

Electro / Optical

1.	Size of screen	32 inches for AT320A/AT3220B/AT3220		
2.	LCD panel supplier	AUO		
3.	Screen aspect ratio			
4.	Type of screen	TFT with Super MVA technology or SIPS or QSV		
5.	Screen resolution	1366 x 768		
6.	Display colors	16.7 M colors (8 real bits per color)		
7.	Chromaticity	Red	0.638	0.335
		Green	0.271	0.597
		Blue	0.145	0.065
		White	0.275	0.298
8.	Color temperature	Five models are adjustable,		
		Cold	16,000 degree K	
		Middle-cold	14,000 degree K	
		Standard	12,000 degree K	
		Middle-warm	10,000 degree K	
		Warm	8,000 degree K	
9.	White uniformity	N/A		
10.	White dispersion	N/A		
11.	Brightness	500 Cd/m^2 (typical)		
12.	Contrast Ration	1200:1 (typical)		
13.	Uniformity	N/A		
14.	Overscan	N/A		
15.	Vision angle	Ultra wide viewing angle: 176 (H), 176 (V) (CR>20)		
16.	Gamma	N/A		
17.	Response time (T_R / T_F)	8 ms (gray to gray)		
18.	Screen (lamp + LCD) life	60,000 Hours (Lamp is not included)		
19.	Panel interface	1-ch LVDS		

Mains

1.	Power supply electrical specification	The power supply for this product is an internal converter, with a non-replaceable fuse internally. This converter is designed to meet CE mark requirement. • Input voltage and frequency range: The operating range of line voltage is AC 90 volts to 264 volts, 47Hz to 63 Hz. • Input current: 2.2A • Line fuse: The AC input is fused and becomes electrically open as a result of an unsafe current condition. This fuse is inside the power supply converter and is not use replaceable, and must be returned for replacement. This fuse is well selected to handle inrush current for all combinations of line voltage and frequency.
2.	Stand-by consumption	5 watts (max)
3.	Power consumption	185 Watts
4.	Mains disturbance behaviour	No disjunction during 0 to 40ms mains interrupt, with max load, min mains voltage. No software reboot during the test. No over voltage causing any damage during mains interrupt (0 to any time).
5.	Inverter	The inverter which is used to light up backlight of LCD panel is well designed to meet requirement of panel specification.

Audio / Acoustical

1.	Audio input	Level: 500 mVrms Type: Stereo R/L Channels Impedance: More than 22 K ohm Interface: RCA Jack, R: Red color, L: White color
2.	PC Stereo Input	Level: 500 mVrms Type: Stereo R/L Channels Impedance: More than 22 K ohm Interface: 3.5mm stereo jack
3.	Built-in Speaker	Max. audio output (at 10% THD max.) at 500 Vrms / 1KHz input: 8W + 8W Sound Distortion at 250 mW / KHz: 1% THD max. Speaker: 20W (10W + 10W) Speaker impedance: 4 ohm at 1KHz Residual Hum at Min. Volume: 500 uW Max. Max Hum at Max. Volume: 1000 uW Max.
4.	acoustical noise (complete TV)	Audible noise in standby mode <35dBA (ISO-7779) Audible noise in power ON mode <35dBA (ISO-7779) Parasitic noise due to mechanical vibration during audio sweep must be inaudible at 1m around the TV.

Hard / Soft Performance

1. Languages supported — Czech, Danish, Dutch, English, French, German, Italian, Polish, Portuguese, Russian, Spanish and Swedish

2. Starting time — A correct picture (color, aspect ratio, stability) can be displayed <6 second after power on

3. Wake-up behaviour — The system can be waken up if the button Standby is pressed (keypad “power” or remote control “power”, “0 ~ 9”, “CH +/-”).

4. Stand-by reason — The TV pass in standby mode upon:

- The button “power” is pressed (keypad or remote control).
- On the selected source: no sync signal after 8 minutes.

5. Video and Audio Characteristics

No.	PARAMETER (Channel: 11)		MIN.	TYP.	MAX.	UNIT	NOTE
1	Video output level		0.8	1.0	1.2	Vp-p	1
2	Video S/N		44	48	-	dB	2
3	Noise limiting sensitivity		-	44	49	dBuV	3
4	Video amplitude frequency characteristics	1.0 MHz	-2.0	0	+2.0	dB	4
		2.0 MHz	-2.0	0	+2.0	dB	
		3.0 MHz	-3.0	-0.5	+1.0	dB	
		3.58 MHz	-4.5	-1.5	+0.5	dB	
5	Audio output level	140	140	290	440	mVrms	5
6	Audio S/N		40	48	-	dB	6

6. Scanning mode

Automatic:
- Multi-standard, frequency based
- Level range: 55dBuV to 100dBuV
- Abort possible during scanning process

Manual:
- Frequency setting is available.

7. Analog TV naming function

Automatic: CNI recognition
Manual: 5 characters

8. PIP / POP / PBP function

PIP
PIP multiple size: 20%, 30%
PIP multiple position: 4 corners
POP
POP source: video / graphic (main) by ATV (sub)
POP (main + sub): 1 + 5, 1 + 12

Multi Picture

AT3220 series only supports video on graphic (VGA) multi-picture function. The configuration for multi-picture is listed and described as following:

PIP/PBP

Main / Sub	TV	AV1	AV2	HDMI	Component 1	Component 2	VGA	DVI
TV	X	X	X	X	X	X	O	X
AV1	X	X	X	X	X	X	O	X
AV2	X	X	X	X	X	X	O	X
HDMI	X	X	X	X	X	X	O	X
Component 1	X	X	X	X	X	X	O	X
Component 2	X	X	X	X	X	X	O	X
VGA	O	O	O	O	O	O	X	O
DVI	X	X	X	X	X	X	O	X

O: support
X: not supprot

POP (1+5, 1+12) Main and Sub Screen Combination

Main / Sub	TV	AV1	AV2	HDMI	Component 1	Component 2	VGA	DVI
TV	X	X	X	X	X	X	O	X
AV1	X	X	X	X	X	X	X	X
AV2	X	X	X	X	X	X	X	X
HDMI	X	X	X	X	X	X	X	X
Component 1	X	X	X	X	X	X	X	X
Component 2	X	X	X	X	X	X	X	X
VGA	X	X	X	X	X	X	X	X
DVI	X	X	X	X	X	X	X	X

9. TTX level
- FLOF level 1.5 source can be RF, DVBT or AV.
- TTX characters set must follow the country language selection.

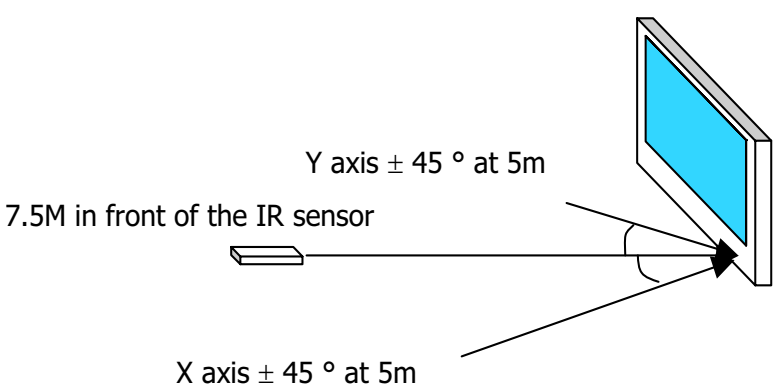
10. TTX keys function
Full screen, Subtitle, Hold, Size, 4 color keys (R, G, Y, B)

11. Video standard supported
- PAL, SECAM (automatic detection)
- PAL (4.43 M, 50Hz) B G D K
- SECAM L

12. Video ADC and processing
10 bits (chroma and luma)
- Luma / chroma AGC
- 10 bits processing
- Noise reduction
- Chroma transient improvement
- Luma transient improvement
- 3D comb filter
- De-interlacer

13. Time to synchronize
During a source / channel change, within 4 second to obtain a stable display

14.	Video management	• User adjustments: contrast, brightness, color, tint (NTSC), sharpness • Color temperature: cold, middle-cold, standard, middle-warm, warm	
15.	Aspect ratio	• Aspect ratio available for all the video sources • 4/3, 16/9, panorama, letterbox1, letterbox2, letterbox3 **NOTE:** PC & DVI only support 4/3 & 16/9	
16.	Scenario functions	Settings:	Standard, movie, sport, concert, game, user
		Noise reduction:	Off, Low, Middle, High
17.	Audio management	User adjustment:	Volume, Balance, Bass, Treble, Mute, Mono / Stereo / Sound1 / Sound2
18.	Audio enhancement	Stereo, SRS, WOW, BBE	
19.	AV sub-format supported	CVBS, YC, RGB, YUV	
20.	Copy protection management	HDCP (HDMI)	
21.	IR performance	The reception distance indicates the distance between IR emitter and receptor which allow to recognize 85% or more IR frames.	
		Reception distance:	>7.5M perpendicular to the IR sensor >5M at 45° horizontally >5M at 45° vertically



Connectors

1.	Tuner type	Analog tuner in
2.	AV1 in	CVBS, S-video, Audio R/L
3.	AV2 in	CVBS, S-video, Audio R/L
4.	Component1	YCbCr/YPbPr, Audio R/L
5.	Component2	YCbCr/YPbPr, Audio R/L
6.	DVI-D	Yes (HDCP)
7.	HDMI	19 pins HDMI signal link (HDCP)
8.	PC D-sub in	Yes
9.	PC Audio in	Yes

Environmental Requirements

The TV shall meet the following environmental requirements under normal operating conditions.

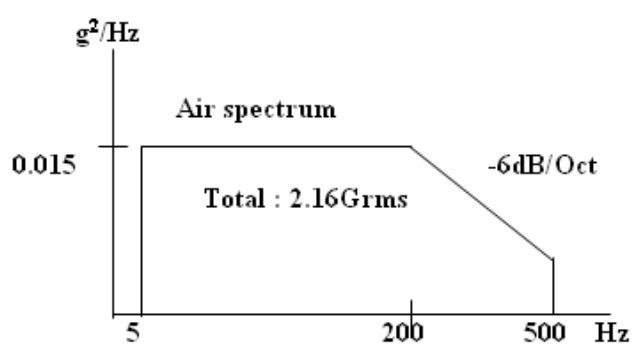
1.	Operating	25º +/- 5º for purity, white point, mis-convergence, luminance measurements and white uniformity measurement	
		Operating temperature:	0ºC to 35ºC
		Operating humidity:	10% to 90% (non-condensing)
2.	Storage and Shipping	Storage temperature:	-20ºC to 60ºC
		Shipping temperature:	-20ºC to 60ºC
		Storage humidity:	10% to 90% (non-condensing)
		Shipping temperature:	10% to 90% (non-condensing)
3.	Altitude	Operating altitude:	0 to 12,000 feet
		Shipping altitude:	0 to 40,000 feet
		Storage altitude:	0 to 40,000 feet
		Units tested at an altitude up to 12,000 feet must operate at normal conditions without exhibiting abnormal behavior such as arcing or shutdown.	

Transportation

Vibration Test

The packaged display shall be capable of passing sinusoidal vibration test as specified in follows.

A. test condition as below:



B. The unit under test shall be run for a duration of 30 minute in each of following orientations.

a. Top and bottom side (z axis)

b. Left and right side (x axis)

c. Front and rear side (y axis)

The unit shall suffer no visible cosmetic damage and should operate no degradation indisplay quality after test.

Additionally, prior to production and prior to implementation of any design or manufacturing change that might affect vibration performance, a minimum of 2 units shall be demonstrated to meet the requirements of specification.

Drop Test

The packaged display shall be capable of passing drop test as specified in following specification without any measurable degradation in performance or detectable mechanical or cosmetic damage.

Filter: 330 Hz

Dropping way: 1 corner, 3 edges, 6 flats

Dropping height: see the table below

Weight(kg)	Corner, edge, F,R,Btm(cm)	L,R,Up side(cm)
0~9	76	76
9~1	61	61
18~27	46	46
27~45	31	20
45~100	25	15

Machine Disassembly and Replacement

This chapter contains step-by-step procedures on how to disassemble the notebook computer for maintenance and troubleshooting.

To disassemble the computer, you need the following tools:

- Wrist grounding strap and conductive mat for preventing electrostatic discharge
- small Philips screwdriver
- flat head screwdriver
- Philips screwdriver
- tweezers

NOTE: The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatch when putting back the components. When you remove the stripe cover, please be careful not to scrape the cover.

General Information

Before You Begin

Before proceeding with the disassembly procedure, make sure that you do the following:

1. Turn off the power to the system and all peripherals.
2. Unplug the AC adapter and all power and signal cables from the system.
3. Remove the battery pack.

Disassembly Procedure Flowchart

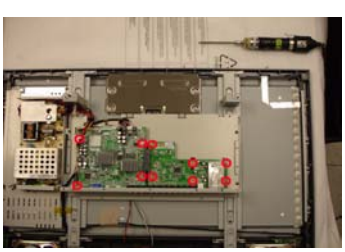
The flowchart on the succeeding page gives you a graphic representation on the entire disassembly sequence and instructs you on the components that need to be removed during servicing. For example, if you want to remove the system board, you must first remove the keyboard, then disassemble the inside assembly frame in that order.

Disassembling Steps

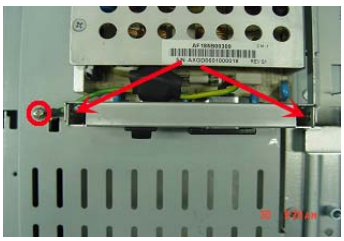
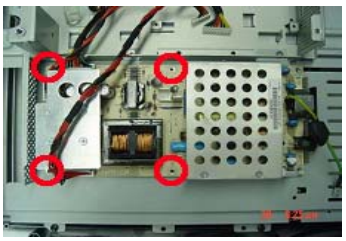
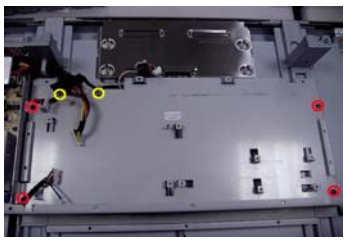
1. Remove the six screws fastening the stand to the LCD TV, then remove the stand.
2. Remove the twenty screws (10 are T4*12 highlighted in red; 2 are M4*8 highlighted in yellow) holding the back cover then remove the back cover carefully.
3. To remove the EMI shielding, you should remove 11 screws holding the EMI shielding. First remove two screws on the left side as shown.

4. Remove three screws holding the EMI shielding as shown.
5. Remove two screws holding the EMI shielding on the right side as shown.
6. Remove four screws holding the EMI shielding then remove the EMI shielding.

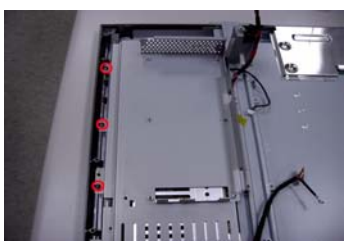
7. Remove the 10 screws (M3*6) fastening main board and the IO board.
8. Remove the six screws (M3*6) and four screw nuts (highlighted in yellow) holding the main board, IO board and the PCB holder. (**Note: This step is for AT3220A**)
9. Remove the six screws (M3*6) and two screw nuts (highlighted in yellow) holding the main board and the IO board. Then carefully detach the main board and the IO board from the main unit. (**Note: This step is for AT3220B**)



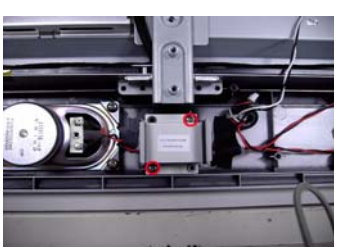
10. Remove the screw holding the power board ground cable and remove two screws (indicating by the red arrows) fastening the switch bracket. Then remove the switch bracket.
11. Remove four screws fastening the power board as show then detach the power board.
12. Remove four screws holding the PCB holder and two screws (highlighted in yellow) fastening the cables, then detach the PCB holder from the LCD TV.
13. Remove the six screws fastening the power support bracket and remove the bracket.

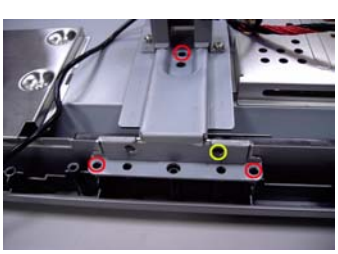
14. Remove three screws fastening the power support bracket.
15. Then remove another three screws holding the power support bracket on the right side as shown and remove the power support bracket.



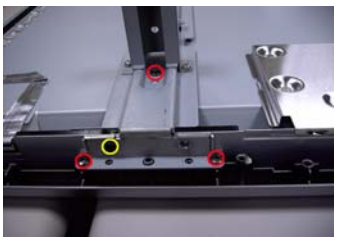
16. Remove the two screws holding the bracket on the right side as shown and remove the bracket.
17. Then remove the two screws fastening the bracket on the left side and remove the bracket.
18. Remove the eight screws (four on each side) fasteing the R/L speakers and remove the speakers.



19. To remove the left LCD bracket, first remove four screws as shown.
20. Then turn to the other side to remove four screws fastening the left LCD bracket.
21. Remove four screws holding the right LCD bracket.



22. Turn to the other side to remove four screws holding the right LCD bracket as shown.
23. Remove four screws holding the LCD module to the front bezel.
24. Then you can hold the LCD brackets and take out the LCD module as shown.



25. Remove the two screws holding the IR board then disconnect the cables and remove the IR board.

26. Remove the four screws fastening the speaker on the right side.

27. Remove the four screws fastening the speaker on the left side then take out the speaker set.

28. Remove the three screws holding the button board to the main unit then disconnect the cables and remove the button board. Now you have completed the LCD TV disassembly.

NOTE: Before you remove the boards, please disconnect the cables on the boards.

Troubleshooting

Use the following procedure as a guide for Acer LCD TV AT3220A/AT3220B and AT3220 problems.

NOTE: The diagnostic tests are intended to test this model. Non-Acer products, prototype cards, or modified options can give false errors and invalid system responses.

1. Duplicate symptom and obtain the failing symptoms in as much detail as possible.
2. Distinguish symptom. Verify the symptoms by attempting to re-create the failure by running the diagnostic test or by repeating the same operation.
3. Disassemble and assemble the unit without any power sources.
4. If any problem occurs, you can perform visual inspection before you fellow this chapter's instructions. You can check the following:

   power cords are properly connected and secured;

   there are no obvious shorts or opens;

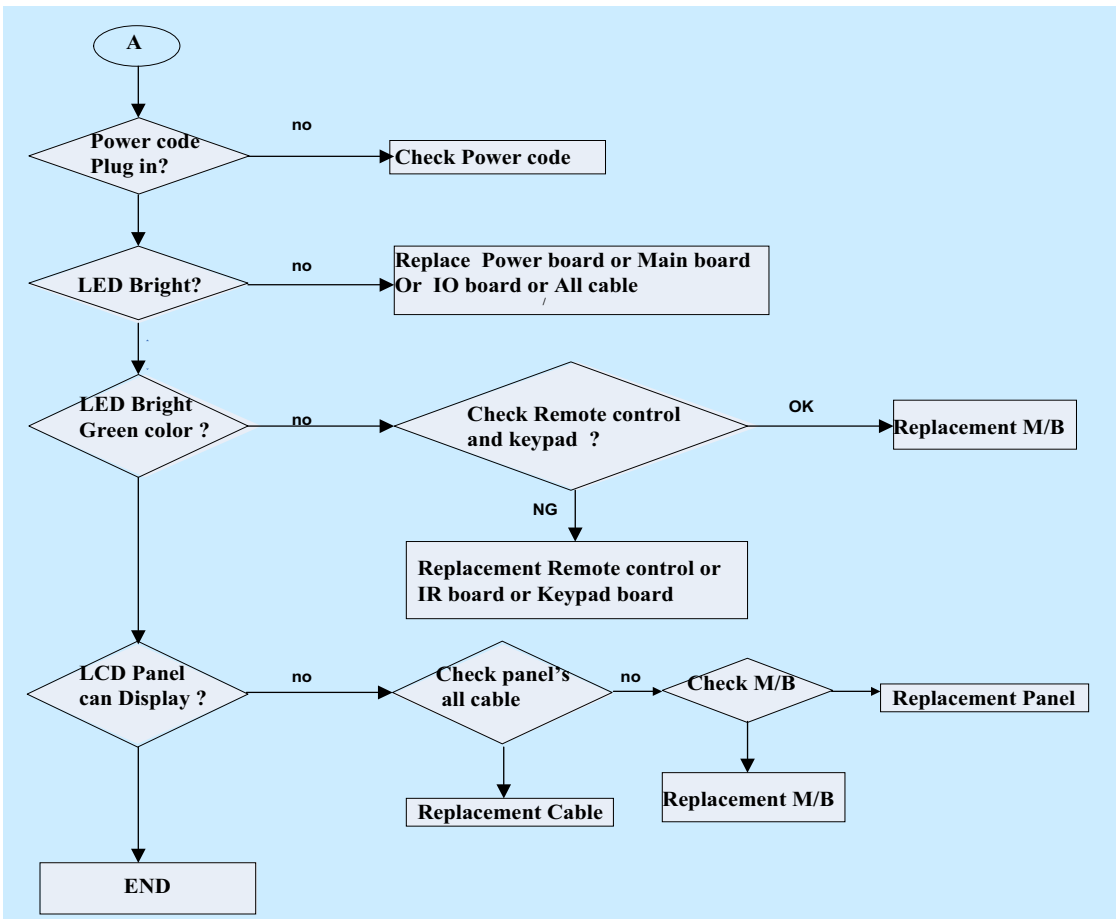
   there are no obviously burned or heated components;

   all components appear normal.
5. Use the following flow chart determine which part to be replaced.

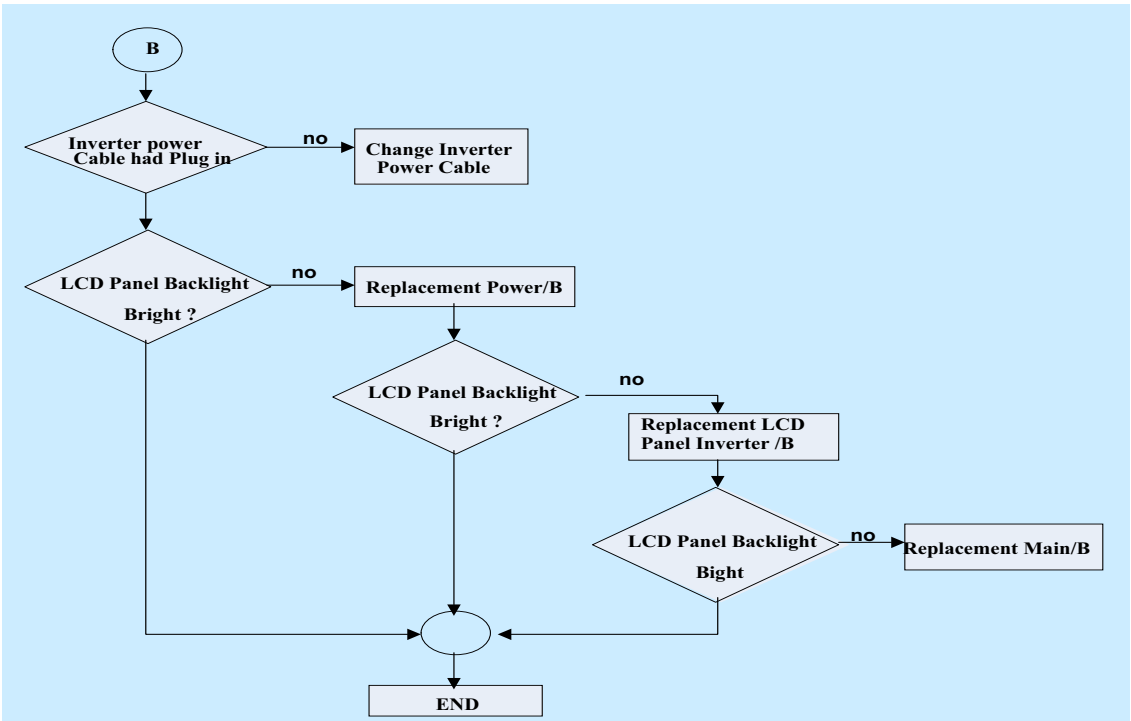
NOTE: N.G. in the below figures means "No Good".

AT3220A Troubleshooting Guideline

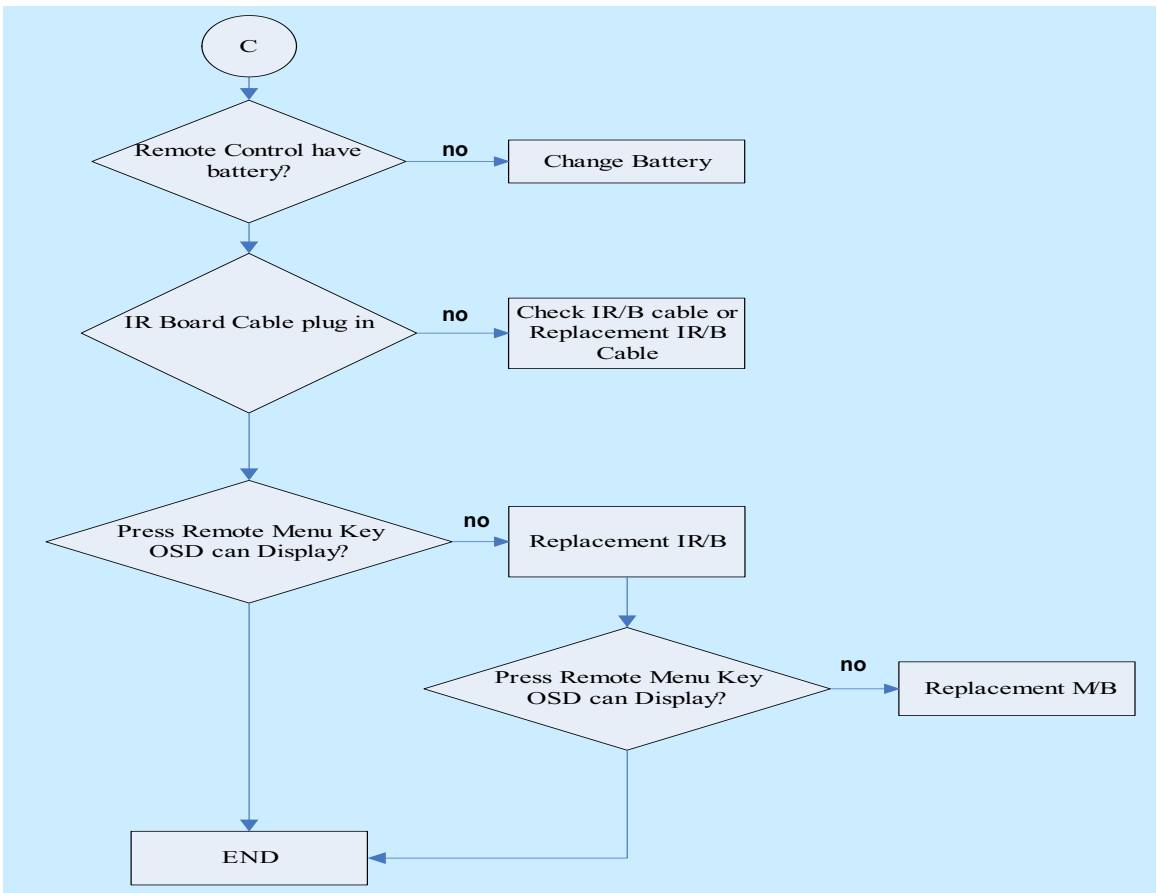
1. Can not power on



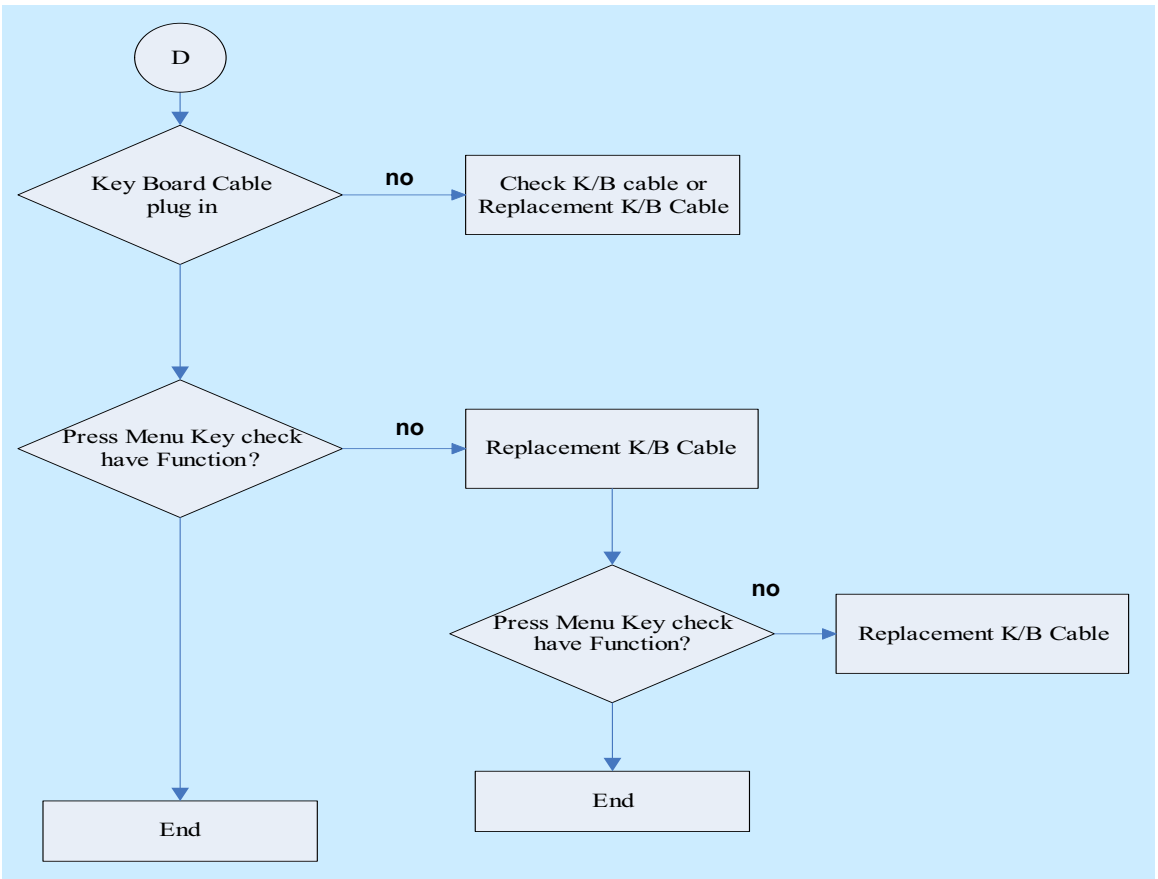
2. LCD no backligh



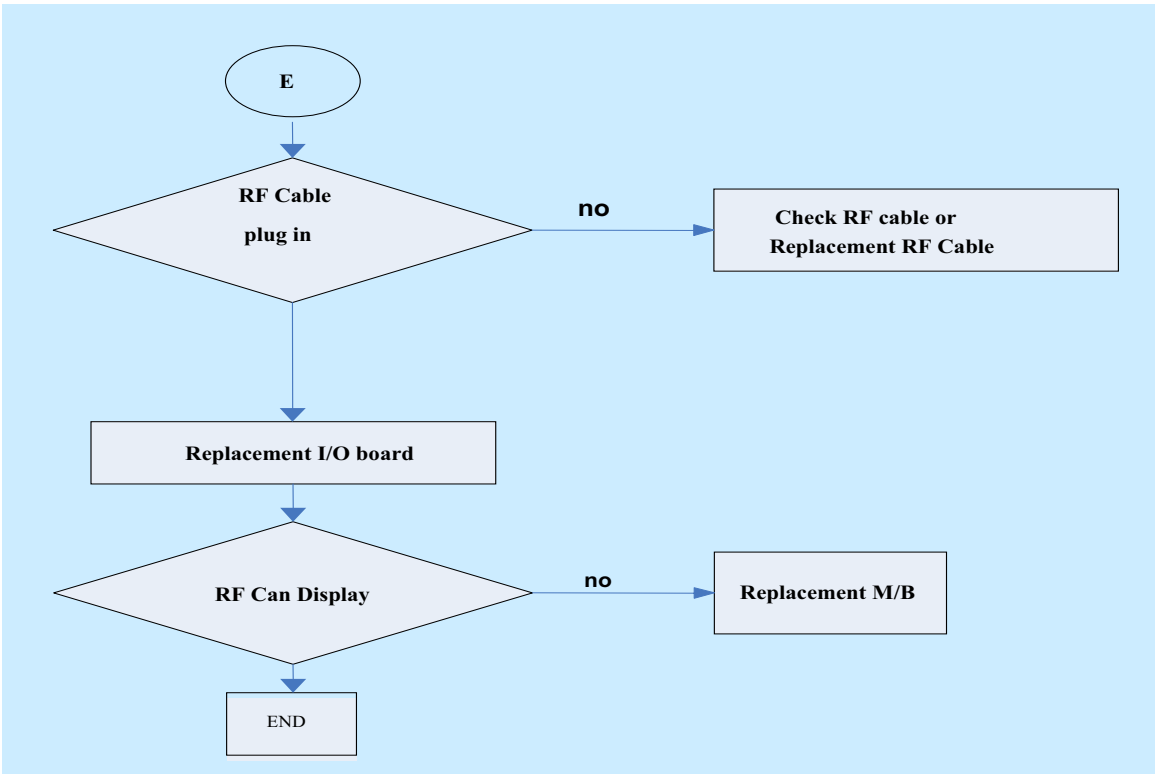
3. Remote controller does not have function



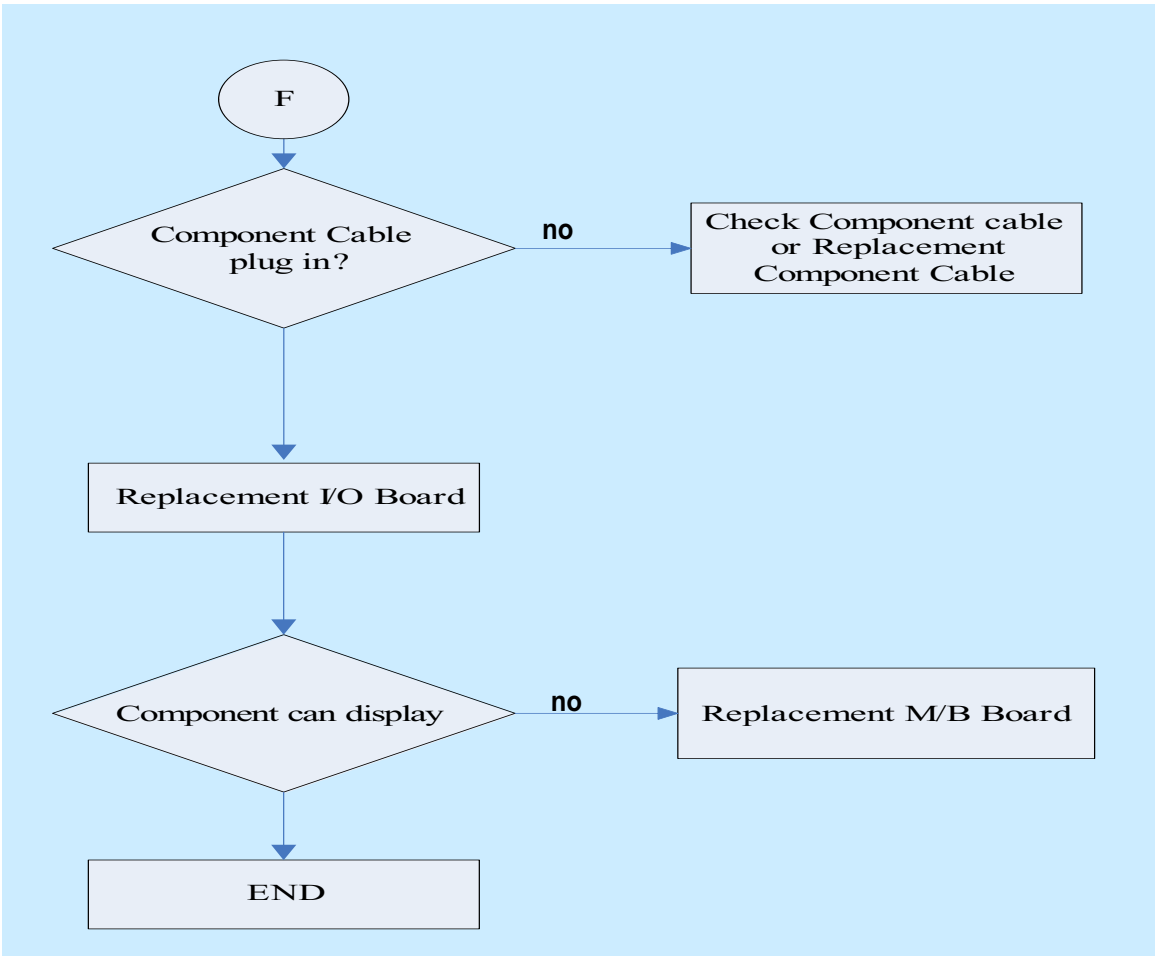
4. Button key does not have function



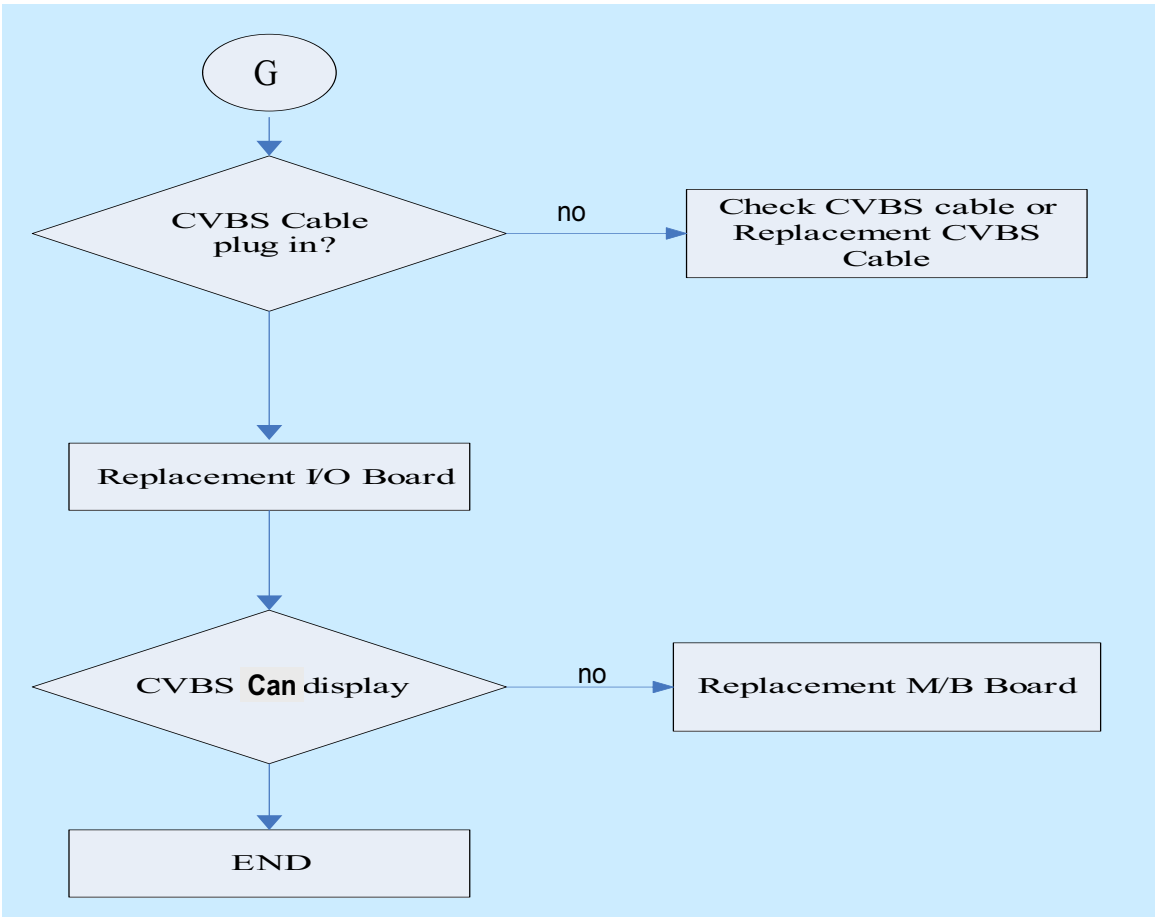
5. RF no display



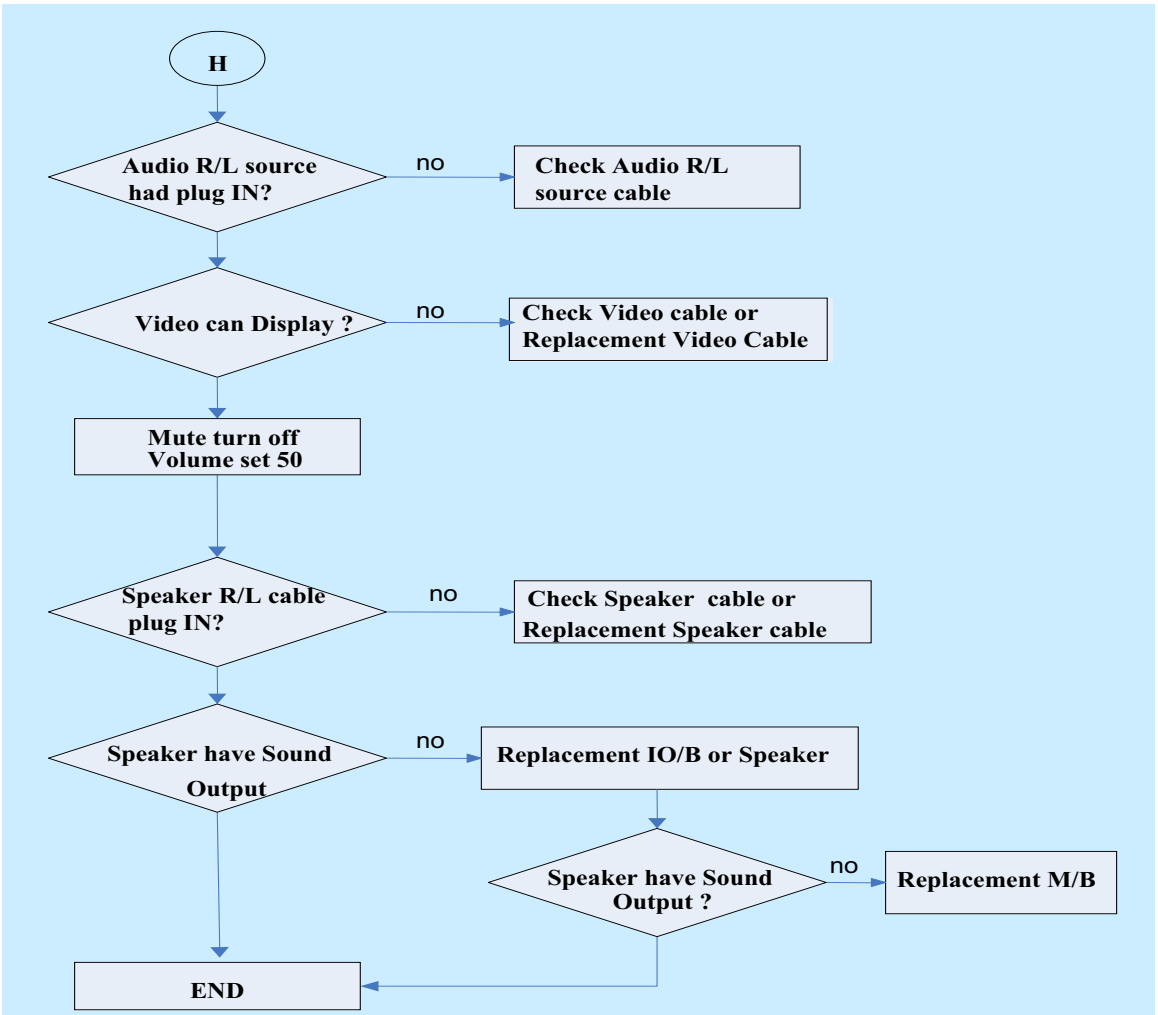
6. Component 1, 2 no display



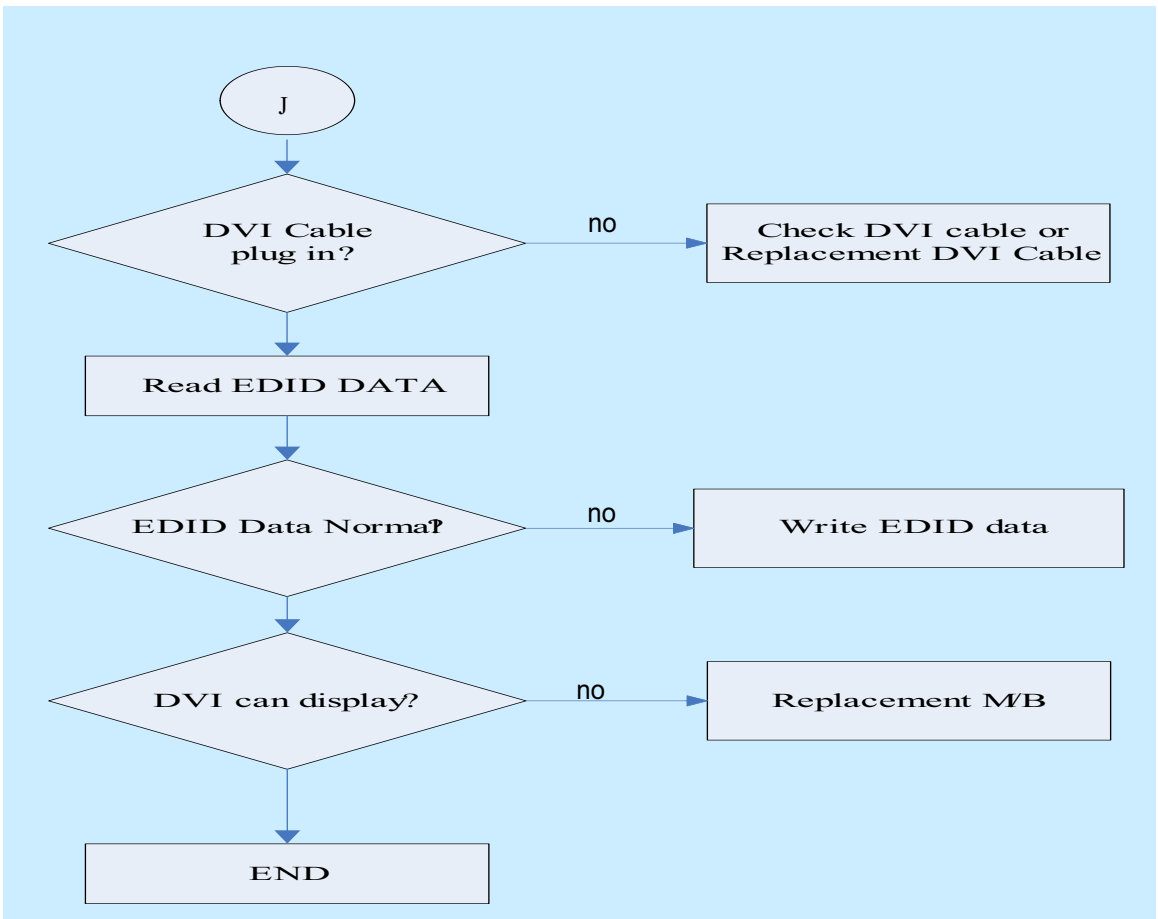
7. AV1, AV2 no display



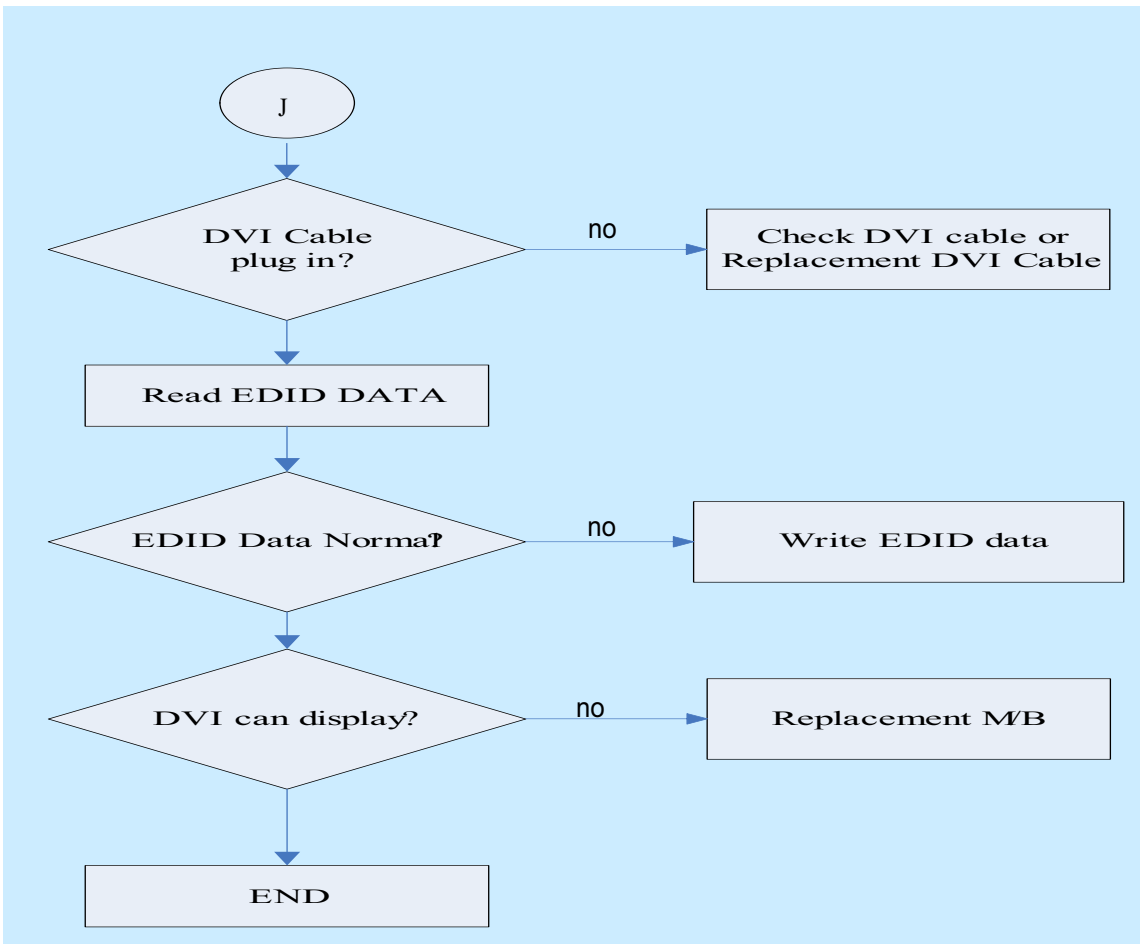
8. Speaker does not have sound



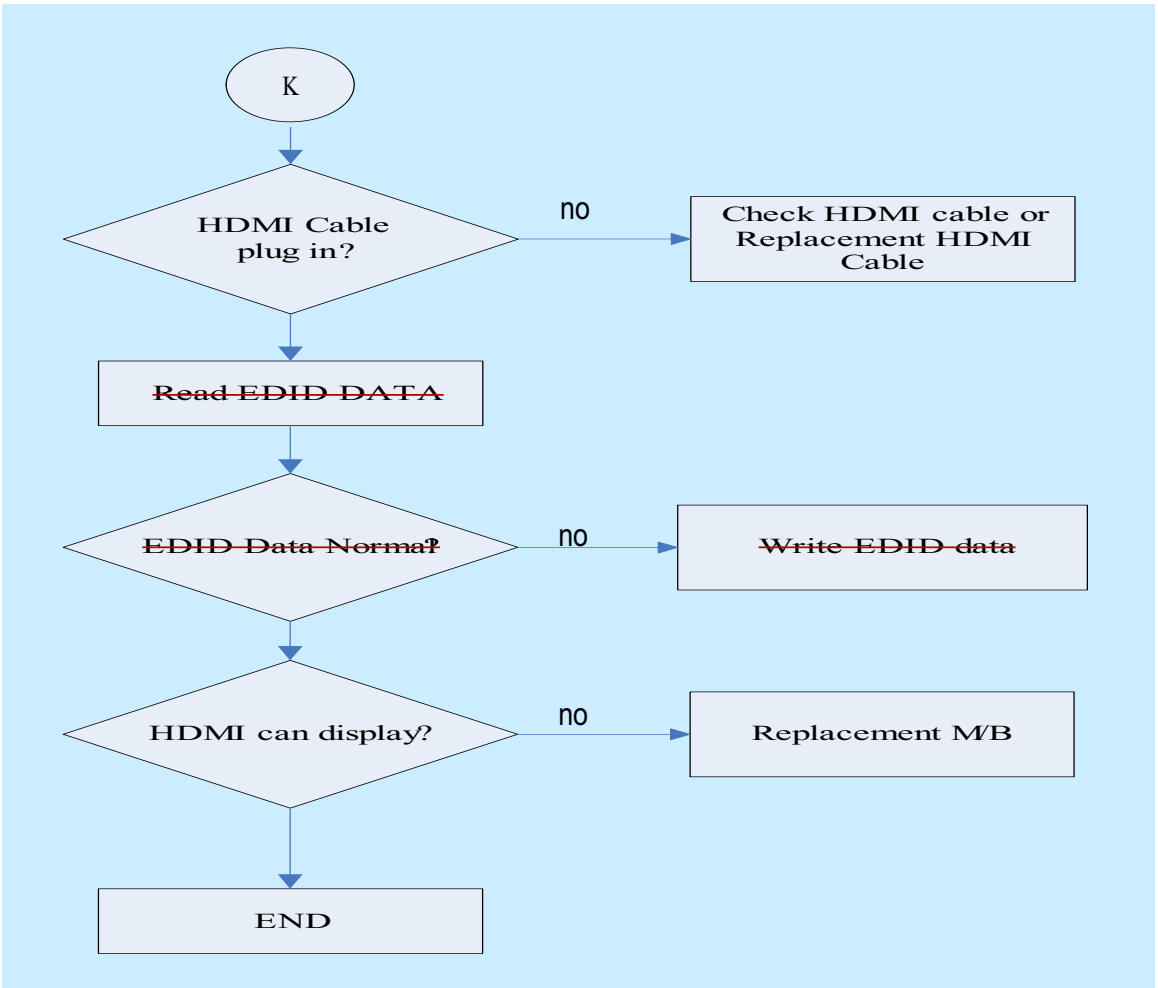
9. VGA no display



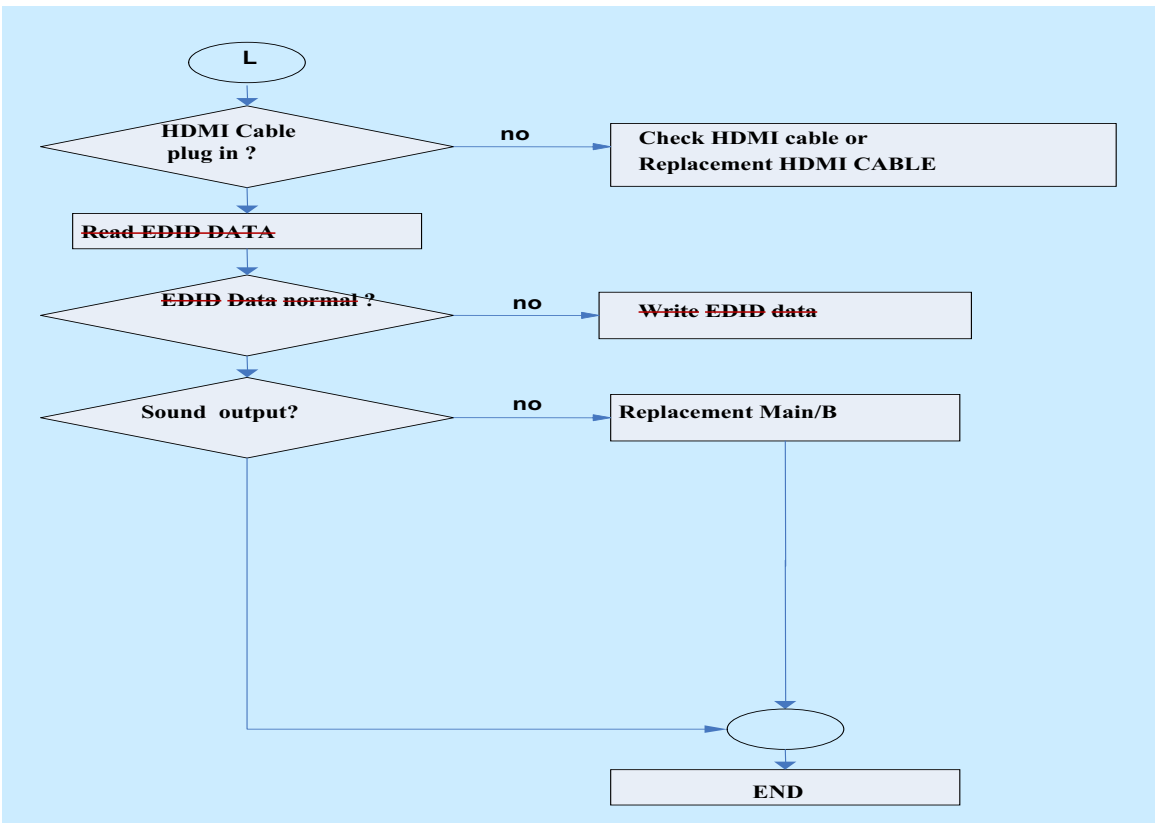
10. DVI no display



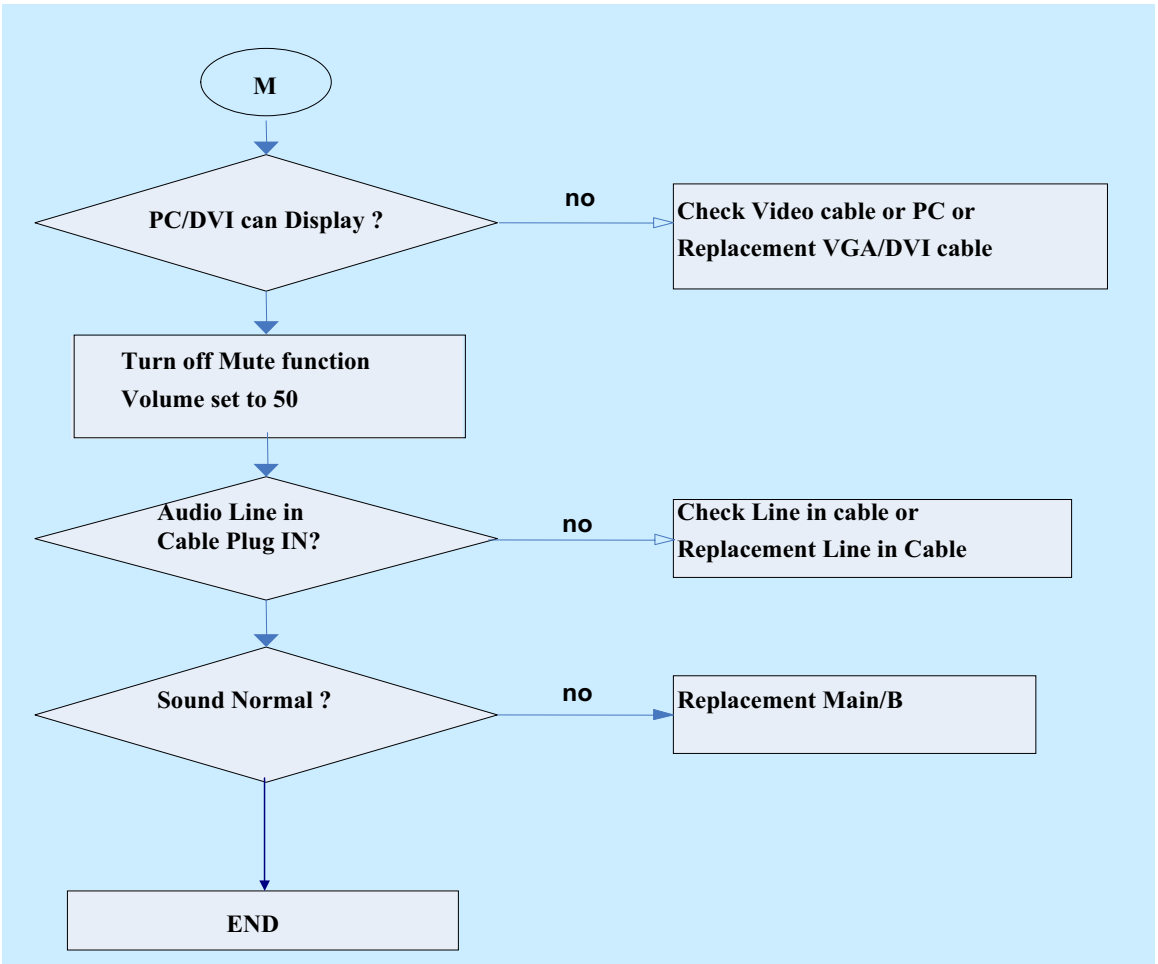
11. HDMI no display



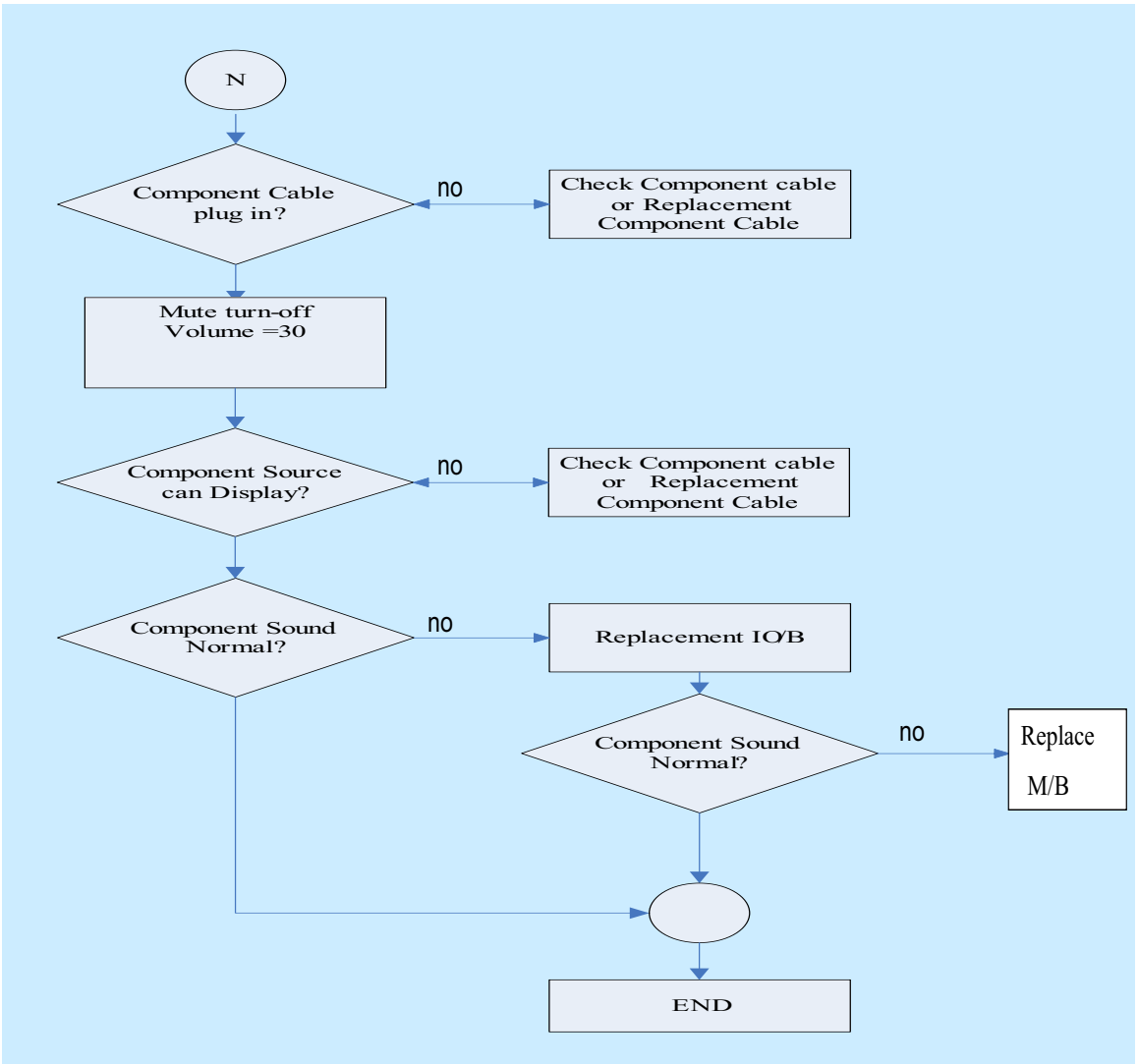
12. HDMI no sound



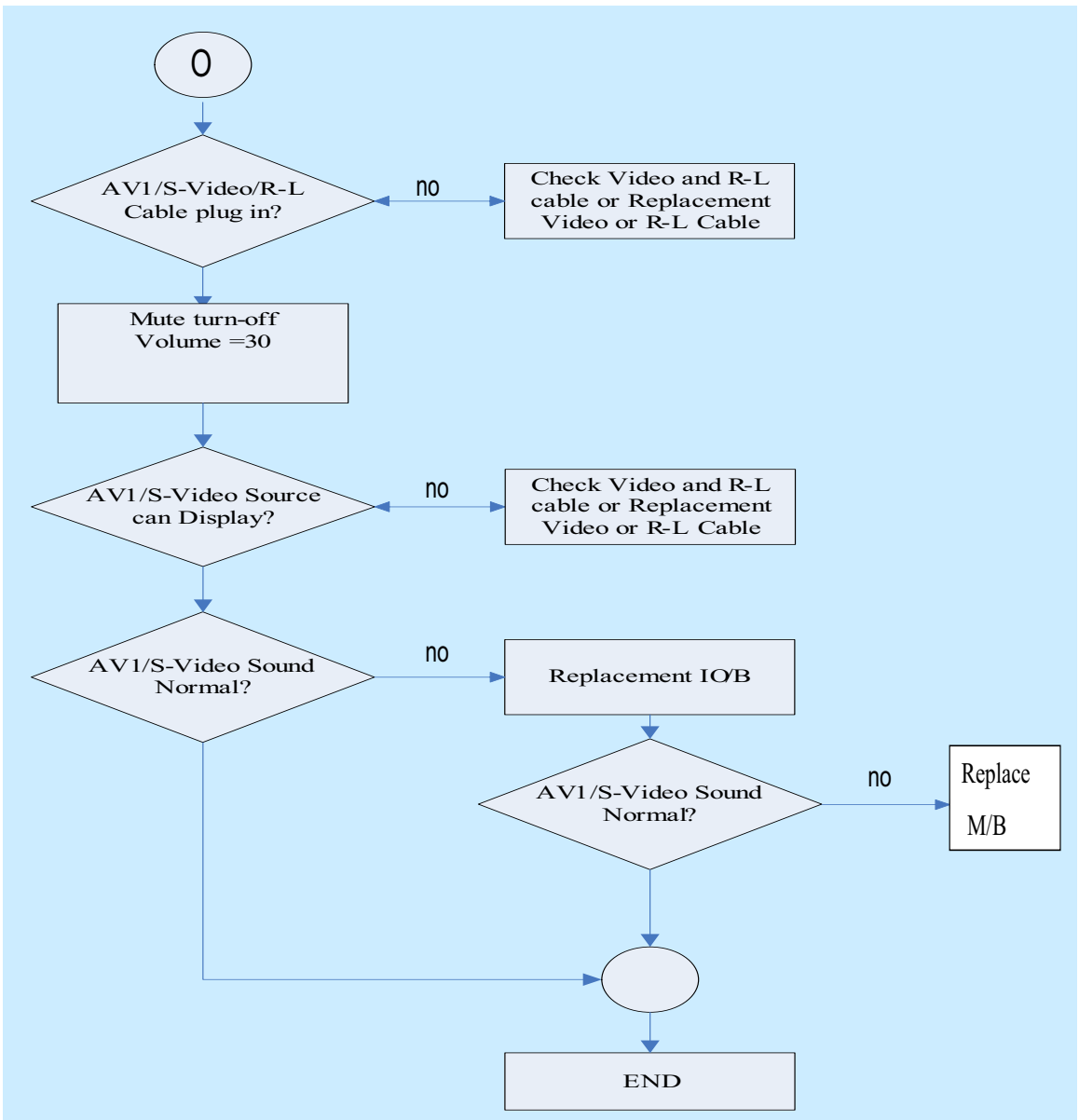
13. VGA/DVI no sound



14. Component no sound



15. AV1/S-video no sound

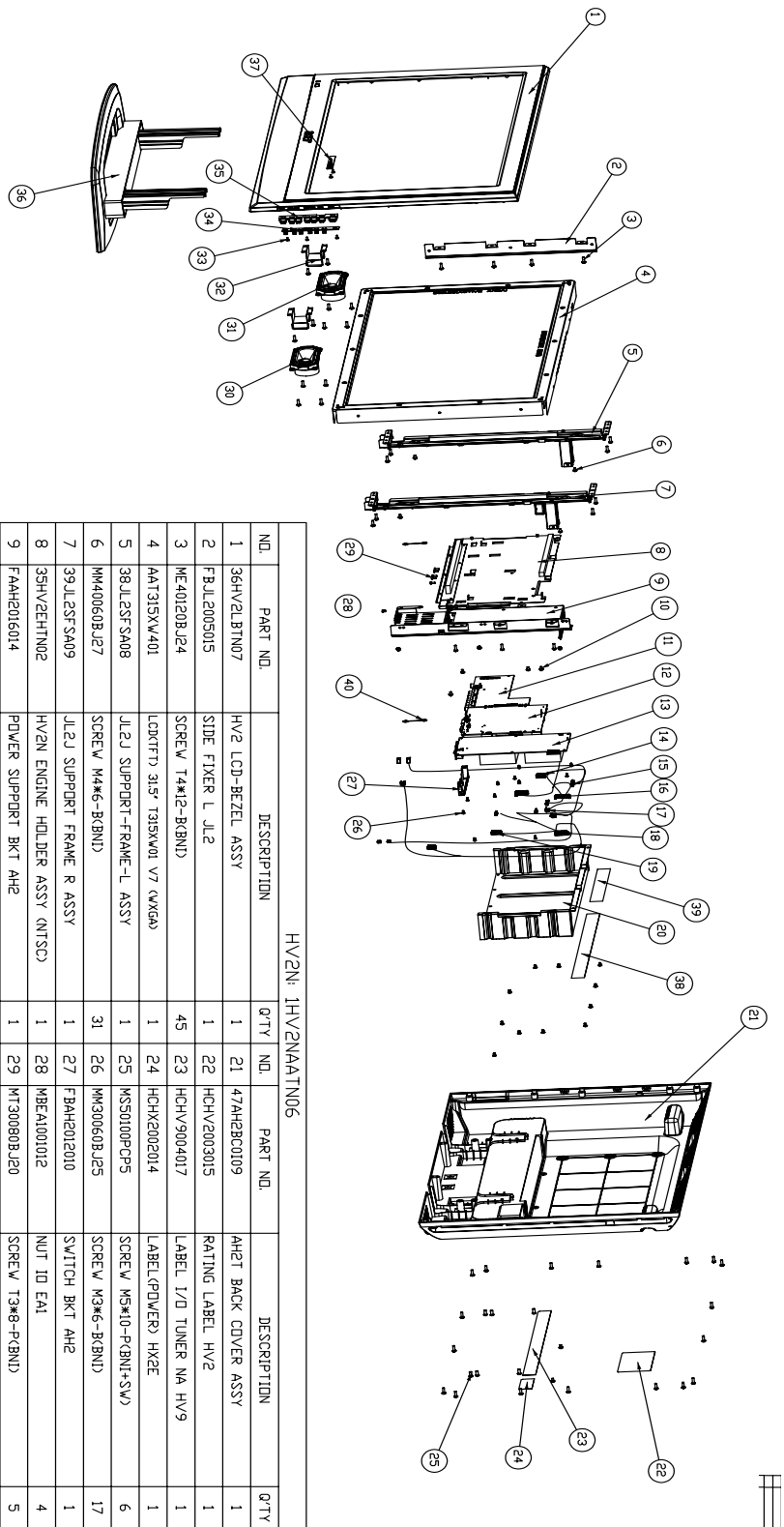


FRU (Field Replaceable Unit) List

This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of AT3220A/AT3220B/AT3220. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization). Please note that WHEN ORDERING FRU PARTS, you should check the most up-to-date information available on your regional web or channel. For whatever reasons a part number change is made, it will not be noted on the Service Guide. For ACER AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code from those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

NOTE: To scrap or to return the defective parts, you should follow the local government ordinance or regulations on how to dispose it properly, or follow the rules set by your regional Acer office on how to return it.

AT3220A Exploded Diagram



HV2N: 1HV2NAATN06

NO.	PART NO.	DESCRIPTION	Q'TY
1	36HV2LBTN07	HV2 LCD-BEZEL ASSY	1
2	FBJL2005015	SIDE FIXER L JL2	1
3	ME40120BJ24	SCREW T4*12-B(BNI)	45
4	AAT315XW401	LCM(TFT) 31.5" T315XW01 V7 (WXGA)	1
5	38JL2SFSA08	JL2J SUPPORT-FRAME-L ASSY	1
6	MM40060BJ27	SCREW M4*6-B(BNI)	31
7	39JL2SFSA09	JL2J SUPPORT FRAME R ASSY	1
8	35HV2EHTN02	HV2N ENGINE HOLDER ASSY (NTSC)	1
9	FAAH2016014	POWER SUPPORT BKT AH2	1
10	MM40060PCE2	SCREW M4*6 P (NI)	1
11	32HH6SS0035	HH6N ID/B S/S ASSY(US)	1
12	31HH2H10132	HH2 M/B HAND INSET(FOR HV2NAU	1
13	AF185B00309	PWR 185W,IPS-185KP A(90~264VAC)	1
14	DDHR2TTH201	CABLE ASSY HR2T LVDS AU	1
15	DDOHX2PB006	CABLE ASSY HX2 MB-PWR	1
16	DDHR2TIV001	CABLE ASSY HR2T INV AU	1
17	DDOHV2AB007	CABLE ASSY HV2 AUDIO-PW	1
18	DDOHH2EP101	CABLE ASSY HH2 SPEAKER 2P/3P,4P,1A	1
19	DDOHV2IR002	CABLE ASSY HV2 MB/IR/BTN	1
20	FAJL2004018	EMI SHIELDING JL2	1
21	47AH2BC0109	AH2T BACK COVER ASSY	1
22	HCHV2003015	RATING LABEL HV2	1
23	HCHV9004017	LABEL I/O TUNER NA HV9	1
24	HCHX2002014	LABEL(POWER) HX2E	1
25	MS50100PCP5	SCREW M5*10-P(BNI+SW)	6
26	MM30060BJ25	SCREW M3*6-B(BNI)	17
27	FBAH2012010	SWITCH BKT AH2	1
28	MBEA1001012	NUT ID EA1	4
29	MT30080BJ20	SCREW T3*8-P(BNI)	5
30	DN22CC50013	SPEAKER ASSY AH2T H22CC50-51C-R	1
31	DN22CC50005	SPEAKER ASSY AH2T H22CC50-51C-L	1
32	FBAH2002014	STAND SUPPORT BKT AH2	2
33	MF30060BBJ6	SCREW T3*6-B(ND)	5
34	44JL7SS0005	JL7 KEYPAD/B S/S ASSY	1
35	EBHV7001010	FUNCTION KEY HV7E	1
36	27HV2SATN00	HV2 STAND ASSY	1
37	43JL7SS0012	JL7 IR/B S/S ASSY(FOR HV7)	1
38	JXHR7005012	CONDUCTIVE TAPE-DN HR7	1
39	GBVT2010010	PANEL CONTACT PAD	1
40	DDOHH2TH004	CABLE ASSY HH2 GND(1P,1P,1A)	2

AT3220A/AT3220B/AT3220 FRU List

Picture		Part Name (Description)	Part Number
ACCESSORY			
		REMOTE CONTROLLER - USA	25.M25V7.001
		REMOTE CONTROLLER - EU	25.M28V7.001
		REMOTE CONTROLLER - AUS	25.M38V7.001
BOARD			
		POWER BOARD	55.M25V7.001
		FUNCTION BOARD	55.M25V7.002
		IR BOARD	55.M25V7.003
		IO/TURNER BOARD - PAL EU	55.M12V7.004
		IO/TURNER BOARD - NTSC NA	55.M28V7.001

AT3220A/AT3220B/AT3220 FRU List

Picture		Part Name (Description)	Part Number
		IO/TURNER BOARD - PAL AUS	55.M12V7.005
		MAIN BOARD - PAL EU FOR AU	55.M25V7.005
		MAIN BOARD - NTSC NA FOR AU	55.M28V7.002
		MAIN BOARD - PAL AUS FOR AU	55.M38V7.001
CABEL			
		LVDS CABLE - PANEL TO MB FOR AU	50.M25V7.001
		INVERTER CABLE 3 CON (14P/4P/10P) FOR AU	50.M25V7.002

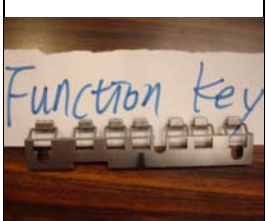
AT3220A/AT3220B/AT3220 FRU List

Picture		Part Name (Description)	Part Number
		CABLE - MB TO POWER BOARD 10P	50.M25V7.003
		CABLE - ADUIO TO POWER BOARD 8P/7P	50.M25V7.004
		CABLE - MB TO KEY TO IR TO LED	50.M25V7.005
		SPEAKER CABLE	50.M12V7.005
		GROUND CABLE	50.M12V7.007
		POWER CORD EU 3 PIN	27.L13VE.007
		POWER CODE ITALY 3P 1.8M	27.M03V7.001
		POWER CORD SWISS 3 PIN	27.M11V7.001
		POWER CODE US 3P 1.8M	27.M03V7.004
		POWER CODE - AUSTRALIA	27.M12V7.001
CASE/COVER/BRACKET ASSEMBIY			

AT3220A/AT3220B/AT3220 FRU List

Picture		Part Name (Description)	Part Number
		FRONT BEZEL ASSY	60.M25V7.001
		BACK COVER ASSY	60.M25V7.002
		STAND ASSY	60.M25V7.003
		LCD SUPPORT BRACKET - L Note: The picture shows left and right LCD support bracket. Left LCD support bracket is on the lower side.	33.M25V7.001
		LCD SUPPORT BRACKET - R Note: The picture shows left and right LCD support bracket. Right LCD support bracket is on the upper side.	33.M25V7.002
		SIDE FIXED - L	33.M25V7.003
		POWER SUPPORT BRACKET	33.M25V7.004

AT3220A/AT3220B/AT3220 FRU List

Picture		Part Name (Description)	Part Number
		SWITCH BRACKET	33.M25V7.005
		EMI SHIELDING	33.M25V7.006
		STAND SUPPORT BRACKET	33.M25V7.007
		FUNCTION KEY	42.M25V7.001
		PCB HOLDER - PAL EU Note: The spare part- PCB Holder is without sponge. Please detach the spone and attach the new PCB holder if you ever change this part.	33.M25V7.008
		PCB HOLDER - NTSC NA Note: The spare part- PCB Holder is without sponge. Please detach the spone and attach the new PCB holder if you ever change this part.	33.M28V7.001
		PCB HOLDER - PAL AUS Note: The spare part- PCB Holder is without sponge. Please detach the spone and attach the new PCB holder if you ever change this part.	33.M38V7.001
LCD			
		LCD(TFT) 31.5 IN. T315XW01 V5(V515)	56.M25V7.001
SPEAKER			

AT3220A/AT3220B/AT3220 FRU List

Picture		Part Name (Description)	Part Number
		SPEAKER ASSY - L Note: The picture shows left and right speaker. Left speaker is on the left side.	23.M25V7.001
		SPEAKER ASSY - R Note: The picture shows left and right speaker. Right speaker is on the right side.	23.M25V7.002
LABEL			
		POWER LABEL	40.M25V7.001
		I/O TURNER LABEL -PAL EU	40.M25V7.002
		I/O TURNER LABEL - NTSC US	40.M28V7.002
		I/O TURNER LABEL - PAL AUS	40.M38V7.001
MISCELLANEOUS			
		PANEL CONTACT PAD	47.M01V7.004
SCREW			
		NUT IO EA1(MBEA1001,REV3D)	86.M25V7.001
		SCREW F3.0*6-B(NI)	86.M25V7.002
		SCREW T4*12-B(BNI)	86.M25V7.003
		SCREW M4*8-B(BNI)-NYLOK	86.M25V7.004
		SCREW M4*6-B(BNI)	86.M25V7.005
		SCREW F3.0*6-B(NI)	86.M25V7.006
		SCREW M4*6-B(BNI)	86.M25V7.007
		SCREW T4*8-B(BNI)	86.M25V7.008
		SCREW M3*6-B(BNI)	86.M08V7.003
		SCREW M4*6 P (NI)	86.M01V7.002
		SCREW M3*6-B(BNI)	86.M08V7.003
		SCREW T3*8-P(BLACK)	86.M03V7.003
		SCREW T3*8-B(BNI)	86.M08V7.007
PACKING			
		EPE BAG - AT2602	47.M11V7.003
		EPE SHEET - AT3205	47.M09V7.004
		PE BAG/235*300+50 AH2(HAAH2005,R3B)	47.M25V7.001
		EPS FOAM(TR) HX2(HBHX2005,REV3B)	47.M25V7.002
		EPS FOAM(TL) HX2(HBHX2006,REV3B)	47.M25V7.003
		EPS FOAM(BR) HX2(HBHX2007,REV3B)	47.M25V7.004
		EPS FOAM(BL) HX2(HBHX2008,REV3B)	47.M25V7.005
		ID CARD-STN ZG1S(HCZG1036,REV3A)	47.M25V7.006
		CARTON HV2(HFHV2003,REV3A)	47.M25V7.007

AT3220A/AT3220B/AT3220 FRU List

Picture		Part Name (Description)	Part Number
		CARTON CLASP VW7(JXVW7001,3A)	47.M08V7.020